Editorial Notes.

THE JURIES BILL.

OUR readers will be pleased to learn that the Juries Bill of the Attorney-General, read a second time in the House of Commons on Monday night, or rather Tuesday morning, contains a clause which, if carried, will absolutely exempt all registered chemists and druggists, actually practising as such, from the liability to serve on juries. It is the more gratifying to report this just concession because one of the features of the new bill is that it provides for a considerable diminution of the exemptions heretofore granted. For example, members of Parliament, except when in session, and the clergy, are to be no longer free from service. This fact shows that the Attorney-General has appreciated the force of the representations made to him, first of all by ourselves, and afterwards by the Pharmaceutical Council, and therefore we may rest assured that in the event of the privilege being challenged, the learned gentleman will readily justify the solitary extension of exemption (as we believe it is) which he has made as regards chemists and druggists. The bill was received in the House with evident favour, and having been read a second time was referred to a select committee. It will be submitted to a searching investigation, and when we consider that it proposes to make some important changes in our jury system, as for instance the reduction of the number from twelve to seven, except in murder cases, we cannot be quite sanguine that it will pass this session. There is a fair prospect that it will; but, in any case, it is something to have gained the admission of the justice of our claim from so high an authority as Sir John Coleridge.

THE DEFENCE ASSOCIATIONS' CIRCULAR.

CARLYLE has commented on the extraordinariness of the fact that, in all ages and all countries, it has been possible for a shilling a day to get men who at a word of command would go out to shoot or to be shot, to kill or to be killed, by other men come out for the same purpose, the two parties having individually no quarrel between themselves, probably having never seen each other before. It only restates the fact and in no degree explains it, if we enunciate the evident truth that it indicates an ineradicable love of fighting in mankind. Like hope, pugnacity springs eternal in the human breast: and this fact perhaps accounts for the prolonged existence of the Chemists' Defence Associations, formed a year ago to resist a certain bill which was then introduced into Parliament. Many pharmaceutical chemists must have been somewhat startled to receive a circular signed by the hon. secretaries of the "Metropolitan," the "Manchester," and the "West of Scotland" Chemists' Defence Associations, advocating the election of certain fourteen gentlemen to the Council. The committees self-complacently "congratulate their brethren upon the complete success which attended their united efforts last year;" and then, perceiving that that success upsets their *raison d'être*, they go on to explain that they deem it prudent "to continue for a season the attitude of watchfulness." There should be no objection to the employment of any legitimate means to advocate the election of those gentlemen whom any particular section of the pharmaceutic body may consider the most suitable. But the Defence Associations' circular was not quite legitimate, and was very incomprehensible. We are, however, quite willing to believe that it was by a mere slip of the pen that one of its pages was ostentatiously headed "The Pharmaceutical Society of Great Britain." But whether a blunder or a crime, the publishers of the circular have handsomely deserved the reproofs which have been administered to them by the Council for this unwarrantable assumption. The circular proclaimed no platform, but pre-supposed a certain amount of incapacity among the rest of the members of the Society to form a judgment, for it recommended fourteen gentlemen on the one simple ground that they had been carefully selected by the committees we have named. We mean no disrespect to the committees and secretaries who drew up and issued this circular, but we think many who received it must have smiled at its somewhat cool assumption of superior judgment. One sentence in it was directly misleading. It referred to "the absence of means by which the personal views of candidates can be known to the constituency." Such means are not absent; they have been employed on this occasion to advance the claims of Messrs. Baynes, Churchill, Hampson, Savory, Schacht, Urwick, and Wade, by the publication of either direct addresses or addresses from the nominators; and in the hope that this very legitimate and respectful method of advocacy will in future be more generally employed, we beg to express the wish that all of the gentlemen who have shown that amount of wholesome respect for the constituency may be placed among the list of elected councillors.

CONFUSION WORSE CONFOUNDED.

THE startling apparition of the Chemists' Defence Association, which was thought to be sleeping the sleep of the just, was itself a sensation, but it was mild compared to the astonishment which was in store. On Saturday last an advertisement was published in the *Pharmaceutical Journal* respecting the election of Council, which, by the headings "important and final notice," and "all previous announcements cancelled," was evidently intended to lead to the supposition that it emanated from the same caucus which had issued the circular. It "earnestly entreated" members to give their votes to *another* fourteen, which, taken as a whole, form a different school altogether to those who had formerly been recommended. And this was on the authority of a never-before-heard-of organization which called itself the "Poison Defence Association," and dated from "Committee Rooms, Manchester." What it all meant we were at a loss even to guess. We were compelled to suppose that "an enemy had done this;" but an enemy who could act in such a despicable manner we hoped did not exist in the pharmaceutical ranks. If it was intended as a joke, it was certainly a very funny one indeed.

In reply to our inquiry, Mr. W. Wilkinson, the honorary secretary of the Manchester Chemists' Defence Association thus writes:—"The advertisement in the *Pharmaceutical Journal* of Saturday is an 'invention of the enemy,' and an attempt to steal a few votes by a dodge worthy of women's rights or contagious diseases committee. We have heard a good deal about 'fair play' in this contest, but all the *unfair* play and underhand practice has been on the part of our opponents. I need hardly say that the advertisement in question did *not* emanate from the Manchester Chemists' Defence Association, of which I have the honour to be secretary; and there is no other Poison Defence Association in Manchester, unless it be one got up for this special occasion. It is not our custom either to betray our friends or desert

our colours; and I trust that this paltry attempt to sow distrust in our ranks will meet with the contempt and the failure it deserves. I feel rather flattered that Manchester has been chosen for the scene of operations, as it shows that the parties guilty of the trick must have a very strong opinion of our influence in the election. I have not the slightest idea who are the originators of the scheme, but from what I know of the chemists in this city, I do not think any of them had any part in it."

AUSTRALIAN MEAT.

The probable prospective importance of Australian and other preserved meats will be evident by comparing the statistics of our imports for 1870 and 1871. The calculated supply of meat in the United Kingdom was as follows:—

	1870. Tons.		1871. Tons.
From home-bred animals	1,240,603	....	1,266,478
From imported animals	66,556	....	81,578
From imported provisions	57,743	....	99,125
Total meat supply.....	1,364,902		1,447,181

The immense increase in one year only under this head of "imported provisions" is both surprising and encouraging. It is also quite clear that with such a market as this country offers, there must be a constant addition to the capital embarked in the trade; and as each year gives a widened experience, and consequently adds to the intelligence of those engaged in the purveyance of the preserved meats, we see very good promise of a great success for this trade in the future.

LIEBREICH ON TURNER.

Rarely, perhaps never, has the skill of the surgeon been demonstrated in such an interesting manner, as in the recent artistic researches of Mr. Liebreich. This eminent ophthalmist has lately been lecturing at the Royal and London Institutions on the effect of certain faults of vision on painting, with especial reference to the works of Turner and Mulready. His lectures have excited much interest, especially among artists and art-patrons. And his lucid, carefully-elaborated demonstrations, which he enforces with almost mathematical precision, lead the great majority of his hearers to the conclusions which he has formed. Mr. Liebreich truly says that many connoisseurs elevate the faults in Turner's paintings into peculiarities of style, and some would even go so far as to form a school to imitate that style. Turner's earlier paintings were not disfigured with the haziness and falsity of proportion which marked his later productions; and these faults the lecturer exactly reproduced to his audience by throwing a landscape or a tree on the screen, and then by interrupting the rays between the picture and the reflection by a lens so constructed as to diverge them to such extent as, according to this theory, they were diverged in the case of Turner Turner's defect of vision was what is known as "astigmatism," that is, the vertical rays and the horizontal rays of light were not brought to his sight at exactly the same focus. Hence arose the vagueness and incorrect proportions we have referred to. Turner painted from nature exactly as nature appeared to him, but not as it appeared to him when his sight was truthful. Mulready's defect was a yellowness in the crystalline lens of the eye, which came on with age, and which occasioned a comparative failure of perception of blue colours. The result was that the artist added his blue tints much too extravagantly, and presented ploughboys in smock-frocks as though they had been clothed in purple. Mr. Liebreich's opinions are endorsed by many of the ablest scientific and artistic authorities, and, as we said, seem to be conclusively established by his arguments. His language is admirably chosen, but his pronunciation is strongly indicative of his nationality. Mr. Liebreich is a brother of the, perhaps, more famous doctor of the same name who has introduced chloral hydrate to suffering humanity.

THE CHICAGO COLLEGE FUND.

We are requested to state that this fund is now closed. Since we last wrote the following subscriptions have been received, and in acknowledging them our duty is ended.

R. C. Rait, Partick, Glasgow .. .. .. 7s. 6d.
Edmund Lawrance, Welwyn.. .. .. .. 8s. 0d.
J. N. Place, Brompton, S.W.
Elements of Pharmacy; Garrod's Materia Medica.
Henry Matthews, 60, Gower-street, London.
Pereira's Materia Medica, 4th edition, 3 vols. 25 sets of labels.

As we reported last month, a total of five hundred guineas will represent the British contribution towards the restoration of the Chicago College to its useful labours. Professor Attfield deserves the chief modicum of thanks from the pharmacists of both shores. His energetic mediumship has given the chemists and druggists of this country an opportunity of manifesting their hearty sympathy with their severely tried *confrères* of Chicago, and his experience and good judgment are the best guarantee to the members of the Chicago College that a good selection of books, apparatus, and specimens will reach them ere long.

THE IMPORTANCE OF CLEAN BOTTLES.

Mr. F. J. Bailey, L.R.C.P., reports a singular case of poisoning in the *British Medical Journal*. A child a fortnight old was ordered dill-water. This, when obtained, was put into a bottle which had previously contained nepenthe. A label was on the bottle with that name. The bottle was empty—whatever nepenthe there had been in it having dried up, and left a deposit of opium on the sides and bottom. The dill-water dissolved the opium; and, upon analysis by Dr. Campbell Brown, was found to contain morphia and meconic acid, in a proportion equal to about 2 per cent. of opium, a teaspoonful being equal to about twenty-four drops of laudanum. A teaspoonful was given to the infant about 11 p.m.; he died about 4 p.m. the next day. He fell asleep immediately upon the dose being given. His breathing was noticed to change about one hour afterwards. Convulsions and narcotism came on.

SMART, RATHER.

A highly-coloured liquid preparation, entitled "Antidote to the Opium Habit," has been sold over the country, says the *Michigan University Medical Journal*, at an enormous price, and with the promise that it will cure the habit of taking opium. It is declared by its vendors to be free from opium or any of its preparations. Mr. Ferdinand Reppert has subjected a sample of this magical liquid to analysis, and finds it to contain meconic acid, and narcotina, but no morphia. This appears to be the climax of shrewd economies—selling off the residue from the manufacture of morphia, to cure the victims of the latter, at a price far better than that of the original opium. Let the next man distil wine and sell the residue to neutralise the appetite for brandy. Mr. Reppert inquires if this is a faithful application of the principle of *similia similibus curantur*.

TIPSY ETHICS.

A Glasgow medical divine (the Rev. H. Sinclair Paterson, M.D.), speaking at a meeting of the Temperance League, lately treated the subject of total abstinence from alcoholic

drinks in its medical aspect, and according to the *British Medical Journal*, expressed some surprise that we had not in the south got rid of the notion that intoxicating liquors were necessary as daily dietetical drinks. In Scotland, the labouring classes did not take ale or alcoholic drinks throughout the week, although he admitted that on the last, perhaps on the first, day of the week they did drink whiskey, but then it was for the sake of getting "honestly drunk."

GERMAN PHARMACY.

Our German correspondent apologises for again introducing the question of free trade in pharmacy to English readers, but excuses himself on the ground that the question now occupies such a prominent share of pharmaceutical attention in the Fatherland. We may speak for the majority of English chemists and druggists when we say that, though not directly concerned, they will certainly watch an agitation of this character with unusual interest, and we hope to be able, with our able correspondent's aid, to keep them well posted up in its progress.

STATISTICS VERSUS COMPLIMENTS.

The following statement of the attendance of members of the Council at the Council meetings during the past year is reproduced from the *Pharmaceutical Journal*:—

Atherton, John Henry	14	Mackay, John	4
Betty, Samuel Chapman	15	Reynolds, Richard	5
Bottle, Alexander	12	Sandford, George Webb	12
Brown, William Scott	7	Savage, William Dawson	12
Carr, John	14	Shaw, John	12
Edwards, George	10	Smith, Edward	11
Frazer, Daniel	7	Stoddart, William Walter	9
Greenish, Thomas B.	13	Sutton, Francis	8
Groves, Thomas B.	12	Williams, John	14
Haselden, Adolphus F.	15	Woolley, George Stephen	8
Hills, Thomas Hyde	15		

The following is the summary of the attendances of members of Council on the various committees:—

London Members.			
Greenish	66	Brown	9
Haselden	65	Reynolds	9
Betty	58	Edwards	8
Williams	55	Bottle	7
Sandford	40	Woolley	7
Hills	29	Groves	6
Carr	19	Savage	4
		Mackay	3
		Sutton	2
Country Members.		Frazer	1
Atherton	11	Stoddart	1
Shaw	11	Smith	0

It is of course understood that the chief part of the Committee's work has to be performed by the London members of the Council, as will be seen was the case this last year. But in presence of these figures we are compelled to ask what the Council could have meant by its resolution respecting Mr. Carr, that no member had been "more faithful in his devotion to the interests of the Society, or *more constant in his attendance* at the *various* meetings during his tenure of office." Our criticism on this occasion does not extend to Mr. Carr, but refers only to the alarmingly figurative language in which the Council chose to couch its resolution.

An important pharmaceutical test, to distinguish carbolic acid from creosote, is communicated to us by Mr. T. N. R. Morson, and will be found detailed in our "Correspondence" columns. We also refer to letters from two eminent manufacturers of Brown Windsor Soap, distinctly contradicting the sensational description of its composition which our scientific contemporary *Nature* admitted into its pages recently, and which we brought under the notice of the trade last month.

A Surgeon was fined £1 at the Sheriff's Court, Dundee, on April 29th, for having pulled out a boy's tooth against his will. The defence was that a number of boys had annoyed the doctor, and that he had seized one, and operated gratuitously.

THE EXHIBITION OF 1872.

The first impression which this second serial Exhibition conveys to the mind of the visitor, is probably, that last year sufficient justice was not done to the idea of Her Majesty's Commissioners. Most of us too readily allowed ourselves to compare the limited display then presented against the gigantic heterogeneity which we had come to regard as the main and necessary feature of these collections. And we scarcely allowed ourselves to consider fairly how the new plan of devoting each year to only two or three manufactures would be likely to develope itself. We are disposed to think that as year follows year, and with each year the interest revolves, brightening up first one and then another branch of our manifold industries, the public will come still more to appreciate the wisdom of the design which Her Majesty's Commissioners are carrying out, and will recognise that no other system could so thoroughly and effectively, at one and the same time, stimulate those engaged in the occupations represented, educate the public, and sustain the interest in the Exhibition itself.

It would be out of place here to refer in detail to the exhibits of this year. The daily papers have fully discharged that duty, and the display does not immediately concern the interests which we represent. We shall probably, however, have occasion, in the course of the summer, to direct attention to some one or more specimens which may seem more especially to deserve our attention; but this we may say now: that any one with eyes open and with fair intelligence who goes through the ten-years' course laid out by her Majesty's Commissioners will acquire an amount of technical instruction of no mean extent. The most interesting and instructive feature of this year's show is undoubtedly the exhibition of the processes connected with the art of printing. We could have wished that on such an occasion as this an historical series had been brought together to show the march of progress from the days of Caxton to the present time. But without that it is not difficult to realise the amount of ingenuity and thought which have aggregated in the production of the mighty machines which produce the *Times* newspaper, for instance, or the marvellously delicate processes which we regard as the auxiliaries of the press. The manufacture of stationery will be novel and of great interest to many visitors, and the collection of papers from all countries is a striking evidence of the power now exerted by the fourth estate. The jewelry display, though doubtless possessing many attractions, especially perhaps to connoisseurs, is disappointing to the ordinary sight-gazer. Having anticipated what might be expected from a competition among the diamond and pearl and ruby and sapphire dealers, and workers in fine gold, all over the world, it is somewhat depressing to find, instead of a gorgeous flash of light from myriads of gems, a most ordinary row of glass cases, containing, for the most part, the most every-day collections of lockets, bracelets, and necklets, repeated over and over again, and relieved only by a not quite complete arrangement of the peasant jewelry of all countries. Her Majesty's Commissioners have mainly themselves to thank for this poverty-stricken display of wealth, as their long-maintained defiance to the trade, in resolving to make the Exhibition a big bazaar, effectually checked, and in many cases extinguished, any enthusiasm with which the jeweller, at least of the metropolis, might have entered into the scheme. The remainder of the Exhibition consists of musical and acoustic instruments, and fine arts generally. We have no intention of entering upon a critical report of these, though the pictures are very beautiful, and would tempt the pen of the most technical of reporters. A survey of these galleries charmingly winds up the few hours' rather closer study of the fine arts of trade, which, as we take it, these annual Exhibitions are chiefly designed and destined to exemplify and develope.

At an influential meeting held on April 26th, in the library of Owen's College, Manchester, Professor Greenwood stated that, as the result of negotiations between the Council of Owen's College and the Directors of the Manchester School of Medicine, that School would, after the 1st of August, become virtually the Medical department of Owen's College.

Foreign Correspondence.

GERMANY.

THE FREE-TRADE AGITATION.

DRESDEN, May, 1872.

I REALLY must beg the pardon of your readers when I again trouble them with a subject already alluded to several times in your valuable journal—I mean the pharmaceutical free-trade question. But allow me to remind you that when the poison regulations were the leading topic of the day, the discussion of them occupied for nearly a whole year almost entirely soul and mind of the English pharmacist, and I hope therefore you will show me some indulgence when I again refer to this question. Besides, it is to be borne in mind that, obnoxious as the poison regulations were, they could not claim to be of the same vital importance as this subject is to the German chemist; it is for him a question of to be or not to be, and in order to understand rightly the present state of German pharmacy, it is necessary to be fully aware of this fact, as it will account in some degree for the circumstance that our profession here counts at present less real scientific workers than in former times. Already, twenty-five years ago, Rose, the celebrated chemist, complained that the apothecaries of our days showed little tendency to pursue scientific studies after passing their final examination and becoming established on their own account, a tendency which of late has become more marked and even publicly pointed out in our papers.

But earnest scientific studies can hardly be expected from a man whose existence is threatened by a slow but steady agitation, who knows that the Government, which used to protect his profession, does not now take the same point of view as formerly, and, above all, knows that he is almost entirely at the mercy of this Government, which one fine day may surprise him with a law which entirely upsets his present position, and fairly ruins him. For in all these matters, even when of the utmost importance, the chemists themselves have very little or nothing at all to say, but all is managed by head-quarters. At present the free-trade agitation has assumed a very grave character, and caused serious alarm, and not without very good reasons, for Chancellor Delbrück has drawn up the following bill, which is to be laid before the Reichstag, and at present subjected to the critical examination of the various medical district authorities, who will consult the chemists concerned, *if they think fit to do so.** The first paragraph of the bill orders:—

"In any community or estate, not forming part of another community, in which, on the day of the proclamation of this law, chemists' establishments do not exist, such establishments may be erected by qualified pharmacists, without the licence otherwise prescribed and required by the laws of the empire."

This is the most important part of the bill, the three other paragraphs simply stating that these new establishments must comply with all orders and regulations respecting the exercise of pharmacy, and that each chemist must give notice to the authorities of his intention of erecting an establishment, or removing to another place. Contraveners are fined up to 50 thalers, or four weeks' imprisonment. The bill is accompanied by a statement of motives, from which I mention the following as representing the substance of them:—

"In consequence of the reluctance manifested to grant new licences, a monopoly value has been created for the at present existing chemists' establishment, that has been raised in middle and larger towns by speculation to an excessive height. These enormous values have, in a great many cases, caused an overburdening of debts, which have endangered to a large extent the existence of these establishments; therefore, it must be acknowledged the licensing system has entirely failed to fulfil the purpose for which it was intended. These considerations lead to the result that the permission of erecting chemists establishments in places where at present such establishments do not exist, is not only the first appropriate step to a reform of the laws referring to the erection of chemists' establishments, but is urgently required by the interests of the consumers. The greatest difficulty in the way of such a reform lies in the values created by the present system; the chemists' establishments having become objects of property, representing considerable sums of money, so that the parties concerned believe themselves entitled to reckon on the continuance of the present system. Such an expectation may be without proper foundation, but those values form an element of the existing state of society, and a sudden change of system appears inopportune. Legislation, therefore, is compelled to proceed step by step. Besides, it is to be admitted that the proposed reformatory step recommends itself by the double feature, that while on the one side it does not create fictitious values, on the other side, it prevents the further rising of them in those places where they exist."

As might be expected, this proposed bill has caused great excitement in pharmaceutical circles, especially in the country, inasmuch as the bill says not one word of compensation for the heavy losses inflicted upon the chemists, who have paid a large sum of money for the privilegium, and who now on a sudden find themselves deprived of the advantages which secured their existence. If this bill in its present form becomes law, a great many of the country chemists will be ruined. It is very unjust, that those hardworking men should be made the first and sole victims, while the better situated town chemists are still protected. For this reason the bill, although much welcomed by the supporters of free trade, does not quite satisfy them.

A consequence of this step has been that the majority of proprietors have given up as useless their former opposition to the introduction of freedom in pharmacy, but demand compensation for their paid privileges, and our pharmaceutical papers are filled with proposals about the mode in which the redemption is to be effected, and its extent, but I shall not trouble you with any of them. Some are very ridiculous and enormous, bearing a striking resemblance to the *Alabama* claims for indirect damages on a small scale. So this affair stands at present. I am afraid I shall have to refer to it several times yet.

Xylol, the new remedy against small-pox, has now been fairly tried, and is found a most useful specific against this dreadful disease. Dr. Nagel, in Berlin, has employed it in eighty-one cases, counting among them eight children under two years, six of them not vaccinated; eleven children between two and ten years, four not vaccinated; twenty patients up to twenty-five years, the rest over that, the eldest being sixty-one years of age. Of these patients, of whom thirty-four had the small-pox in a very advanced state, four died, two children, unvaccinated, three weeks, and nine months old respectively, an adult thirty-two years old, the latter suffering besides from inflammation of the lungs. Dr. Nagel describes Xylol as the best remedy against small-pox, known as yet; it prevents the former large mortality, and although it does not prevent the breaking out of the disease, it prevents its assuming a grave character.

The dreary days of winter have passed away, and as I hope, colds and catarrhs have left likewise, and if I now mention a good cure for these enemies of our winter enjoyments, it may be said, that it comes *post festum*, but I believe it is better to be late than not to come at all, inasmuch as the remedy indeed has been found very effective, and its application very simple and not unpleasant to the patient. It is prepared in the following manner. A wide-mouth glass stoppered bottle is filled with amianth, or better with cotton, and then the following mixture is poured on, so that the cotton or amianth is perfectly saturated with it:—

Acid. carbolic puriss., 5·0 (℈iv.).
Liq. Ammon. caustic, 6·0 (℥iss.).
(spec. gravity 0·960.)
Aquæ destillat, 10·0 (℥ij., ℈ij.).
Spirit. Vini. rectificatiss (℈iv.).

The vapours are drawn into the nose frequently during the day, and now and then inhaled into the mouth. A medical gentleman of Stettin, who is renowned not only for his skill as a physician, but likewise for the tremendous catarrh that troubles him regularly every winter, has used this olfactorium anticatarrhoicum with perfect success on his own person, and afterwards on many of his patients, and recommends it highly.

The emetic properties of apomorphin have been the sub-

[* We have emphasized the last clause of this sentence.—ED. *C. & D.*]

ject of interesting studies, and it was thought such a valuable addition to the series medicaminum, that it was proposed to admit it into the new pharmacopœia; but owing to various contradicting reports this idea was postponed. Meanwhile, Mr. Blasen has taken the opportunity to make some studies respecting the stability of solutions of apomorphin. In the course of his experiments he found that the best vehicle for it is simple syrup. While an aqueous solution, after twelve hours' keeping, undergoes decomposition, assuming a dark colour and becoming quite useless, the solution prepared with simple syrup, remains perfectly bright, and if access of air can be prevented, will keep several weeks. The best mode of dispensing the solution is to fill it in small cylindrical bottles of one gramme capacity, and the cork so inserted that between the latter and the solution no air-filled space remains. The syrup is absorbed under the skin with the same facility as glycerine or oil, and causes no disagreeable by-effects. The apomorphin supplied by English manufacturers showed itself of superior quality, while that of German origin did not produce equally good effects, and dissolved with yellowish-brown colour, and when decomposed it looked brown-green.

The new pharmacopœia still keeps us waiting, for what reasons I cannot state.

UNITED STATES.

Condition of Pharmacy.

(from our own correspondent.)

New York, April 16, 1872.

PHARMACY has advanced more rapidly during the past twenty years in our land than in the half-century which preceded it. The founding of the American Pharmaceutical Association in 1852 may justly be considered the starting point of a great advance in pharmaceutical interest and literature in this and your own country. The little band that in 1851 met to discuss the merits of an act relating to the importation of drugs and chemicals into the United States, has now increased to nearly a thousand, and includes, the honoured names of Proctor, Squibb, Maisch, Parrish, and a host of others more or less familliar to your readers; while among its honorary members are numbered your own beloved Henry Deane, the genial H. B. Brady, whom many in our own land recal with pleasure, your honoured Redwood, the indefatigable Attfield, and the well-known D. Hanbury.

The little pamphlet, which then in but a few pages reported its proceedings, has now swollen to a volume of goodly size, and its contents are a credit to the zeal and industry of many of its members. The next meeting of the Association is to be held in the beautiful city of Cleveland, Ohio, sometimes called the "Forest City," from the many fine specimens of the primitive woods which have been preserved in its midst. Its central locality, and ease of access from all parts of the Union, will doubtless lead to a very large attendance, and the indications are that a goodly number of our southern brethren will meet us in September next. I wonder if some of your English pharmacists will not imitate the example of Mr. H. B. Brady, by taking a look through a portion of our fair land, and meet with us in Cleveland. In addition to this, those who cannot come over in person are invited to send over representatives in the shape of their choice productions, galenical, pharmaceutical, chemical, or artistic, that may be of interest to Pharmacists; and they are assured that they will be properly appreciated and cared for.

The pharmacists of Cleveland intend to make every provision for the comfort and interest of those who shall visit the city, and there is every promise of an excellent meeting.

The Colleges of Pharmacy in the several cities have during the past winter been much more largely attended than during any previous season. About 100 young men have received their diplomas as graduates. The Chicago College, though destroyed utterly by fire, bids fair to rise from its ashes with more than renewed strength and beauty. The kind gifts of their pharmaceutical brethren throughout the civilized world have proved the interest felt by the fraternity of all lands. The munificent offerings of English pharmacy to the Chicago College show the kind appreciation of friendship kindled by personal acquaintance.

Legislation has been applied towards pharmacy during the past four years in several of the States, some for good to the community, and in some cases more for good to a favoured few.

The pharmacists have in New York, New Jersey, Pennsylvania, Maryland, Rhode Island, Illinois, and Massachusetts sought to introduce laws based on the general principles of the law now in force in England. In Rhode Island such a law is now operative; in a portion of Maryland also; in new Jersey it failed to be enacted; in Illinois it is now pending; in Pennsylvania a law applying to the City of Philadelphia has been enacted; in Massachusetts a proposed law has been introduced in the legislative body,—but the New York city law deserves special mention. The law enacted about a year ago gave the Mayor of the City of New York the authority to appoint a commission consisting of two physicians, one pharmacist and one druggist, to examine all druggists, and drug clerks now engaged in business, and all who failed to pass the examination within six months from the time they began their duties were to be precluded from preparing physicians' prescriptions under certain penalties. The cost of the commission is about 17,000 dols. (£3,500) per annum, and the fees paid by employers 30 dols. (£6), and clerks 10 dols. (£2). The pharmacists have tried ever since the legislative body organized (January 1st) to secure the repeal of this law, and the enactment of a law more like the English Pharmacy Act; but as yet no definite action has been obtained, although the Senate (one branch of our legislature) gave the new bill on its passage the votes of every member present, but one.*

Several of the States have organized local pharmaceutical associations, which are exerting a good influence. In Maine, Vermont, New Jersey, California, and Mississippi, they have been organized as State associations. In Pittsburg, Pa., a local body was projected last summer, and is now doing well. In Tennessee we hear of a similar project to be organized by the pharmacists of Nashville.

There are in the various States over 14,000 stores where drugs are sold as the main portion of the business, and quite a large additional number where, in some form, druggists' articles are vended. It is estimated that at least 130,000 persons are actively employed in the drug business directly, to say nothing of chemical manufactures, laboratories, and similar places where unskilled labour is engaged in large numbers.

But my letter is getting almost too long for your columns, and I will defer some other thoughts for a future occasion.

THE VOICE OF THE STARS.

CEASE your vain labours, scrutineers,
Behold the fixed decree,
Which ruling stars, through faithful seers,
Proclaim to pharmacy.

Hull sends us Baynes, and asks from us
A blessing in return;
Elect him, pharmacists, and thus
Shall Hull your virtues learn.

On Betty bet to win a place,
He'll bring you safely through;
And Bottle, forward in the race,
Will surely finish too.

Burden is overburdened here;
But Carr is Fortune's pet;
Churchill must wait another year,
And perhaps another yet.

Stands Scotland where she did? Ah, no!
But one remains to praise her;
Edina keeps Mackay, but oh!
Glasgow must lose her Frazer.

Hampson has changed his stable, he
May think of stones that roll;
As hills are high, so Hills shall be
On this momentous poll.

* The *New York Times*, of April 19th, reports the third reading of the bill to repeal the law to which our correspondent refers, in the legislative assembly.

Malden will scarcely scramble through
Owin' to Owen's pluck;
Radley for Yorkshire runs, and who
May question Yorkshire's luck?

The noble Savage, Brighton's trust,
Is sure of victory'e smiles;
But Savory fails, through deep distrust
Of Richard William Giles.

A meteor shoots across the sky,
But not for darkness bound,
'Tis Schacht, who shoots ahead, and high
His colours will be found.

Shaw's sure; but Edward Smith will find
No eure abiding place;
And Stacey, stays he far bohind,
But Starkie lives the pace.

From rising and from setting eun,
Two champions appear,
Both have Scientia's laurels won,
And both shall conquer here.

But Pimlico with pain must part her pair,
One shall be taken and the other left;
Urwick is ticketted for Bloomsbury-square,
While Wade is weighed and wanting found, and of all hope bereft.

ADULTERATION OF DRUGS, ETC.

BELOW we have condensed the very interesting report of the Committee on Adulteratione and Sophistications, presented to the American Pharmaceutical Association at St. Louis last year. We add also the discussion which followed the reading of the report. The committee consisted of Messrs. Remington, Ebert, and Wenzell. Their report was divided into three parts: 1st. Drugs and commercial products; 2nd. Chemicals; 3rd. Pharmaceutical preparations and miscellaneous articlee. Eleven years had elapsed since such a report had been presented to the Association, and the committee had to commence their statement with the preface that "mammon still reigns in many minds." Respecting

DRUGE AND COMMERCIAL PRODUCTS,

they write:—

"We have been informed that certain wholesale drug houses have rooms set apart for the purpose of mixing powders, and we were informed of a regularly organized adulterating department in a house in Cincinnati, with a foreman (no doubt, of large experience) to superintend this special branch.

"Spices, on account of their widely extended use, are of all powdere most largely adulterated. Woody fibre, 'veritable powder of post,' sawdust, musty ship crackers, are all in demand. A Yankee friend of ours, on paying a visit to a spice mill recently, heard a suspicious rattling in a tin box close by, and being of an inquisitive turn of mind, seized an opportunity to gratify his ruling passion, and discovered roasted peas being worked up into no doubt *pure* ground pepper. Startling revelations might be made if a spice miller could be compelled to disgorge his ill-gotten knowledge. The only safe way to get pure powdered drugs is to pay a good price, and buy from conscientious parties who are above suspicion.

"Some wholesale druggists of undoubted character and ability have established mills on their own premises, and do their own powdering; but it is to be regretted that it is not a paying business for them, principally because they cannot and will not produce a fine handsome-looking powder for the same money that a professional miller can, and use the means that he does; and, sad to relate, the number of pharmacists who are influeneed by the trifling advance in price, are continually on the increase. As long as this latter fact remains a verity, the adulteration of powders must flourish.

"The subject of adulteration in assafœtida has been brought prominently forward. An analysis by Prof. Maisch of five samples, showed the presence of 57, 44, 15, 51, and 62 per cent. of impurities; average 45 per cent. The impurity consisted chiefly of sulphate of lime, which Prof. Maisch says is largely used to mix with the resinous matter agglutinating the tears. Commercial assafœtida is unquestionably greatly adulterated, but this lot seemed worse than usual; but to show the spirit actuating some in the trade, one of the largest wholesale druggists in the country (on being questioned about this very lot of assafœtida, as he was about negotiating for the purchase), said that 'he did not care if it was all brickbats, if he could make fifteen cents per pound on it.'

"*Attar of Rose.*—A clumsy but frequent adulteration by the wholesale druggist here is to make a mixture of alcohol and castor oil, half and half, and dilute the attar according to price wanted; this can, of course, be detected by putting a drop on a slip of white bibulous paper, and noticing whether the stain entirely disappears.

"*Burgundy Pitch.*—There ie so little of the true in the market that it seems as if the best the pharmacist can do now, is to see that he gets a good fictitious article, and one having considerable aromatic odour.

"*Beeswax* is adulterated with tallow and paraffine; the latter is believed to be quite a frequent adulteration.

"*Barks.*—There is at present a large quantity of poor Peruvian bark in the country; samples representing several hundred ceroons have been tested, and found to contain no quinine at all. What becomes of the bark it is hard to say; some, no doubt, finds its way into the numerous quack tooth powders, and it would be charitable to think it all went this way if we could, but powdered red and yellow barks have been sold so low lately that it is hard to resist the conviction that it is sold for good powdered bark, at adulteration prices.

"*Calendula Officinalis.*—It would be hard to believe that an adulterant was adulterated, but it is so in the case of marigold. Professor Maisch has seen it contaminated with the florete of Tagetes erecta, or the so-called African marigold.

"*Cochineal.*—Finely-powdered sulphate of baryta is fixed upon cochineal by some glutinous material.

"*Copaiba.*—Your committee have information that a firm doing business in a town in Indiana make a good-looking fictitious copaiba from castor oil, rosin, and oil copaiba. They ship it to New York, and it is there disposed of.

"*Ipecac.*—Samples of ipecac differing in appearance from the usual root seem to turn up periodically in the market; they pass a round the circle of experts in the trade, each one giving an opinion most likely different from any of the rest, and the result is that the holder of the parcel has to accept a low figure; the purchaser powders it, and away it goes on its missions, either healing or deception. Powdered ipecac sometimes has to be strengthened with tartar emetic to relieve it of general weakness and debility arising from exhaustion. Sulphuretted hydrogen would be apt to discover this fraud.

"*Jalap.*—Dr. Squibb describes a jalap that yielded but 3·3 per cent. of resin, and had every appearance of being soaked in alcohol in Mexico previous to shipment. Such a jalap would make a fine-looking powder, and, no doubt, was made use of that way. Jalap is so easily assayed that there really seems but little excuse left for the pharmacist. The moral effect of say eight or ten pharmacists rejecting a sample of powdered jalap after carefully assaying it, and throwing it back on the hands of the wholesale dealer, would be much more deeply felt than many notices in an adulteration report.

"*Oil of Cloves.*—Several adulterations have been noticed lately; one very curious one is with carbolic acid, which Hager, that persistent enemy of adulteration, has ventilated.

"*Oil of Lemon* has been met with adulterated with 33 per cent. fixed oil. The recent high price it has been commanding will, no doubt, etimulate this practice. Fortunately, when adulterated with alcohol, it keeps better than pure oil, but it is yet preferable to add the alcohol for oneself.

"*Oil of Peppermint* is frequently adulterated. Alcohol and oil of turpentine are the principal adulterants.

"*Olive Oil.*—It is to be regretted that we do not know more about detecting adulterations in this most useful and largely used product; but there are so many oils which closely resemble it in colour, taste, and odour, that it becomes an easy matter to deceive. Lipowitz recommends bleaching powder for the purpose of detecting the adulteration of olive oil with oil of poppy seed. It is said that large-

quantities of cotton seed oil leave this country and come back to us with a genuine imported label on it; we know that it is sold as olive oil here; it is often called union salad oil, and sold as salad oil, thus the uninitiated are deceived.

"*Opium.*—There are not many *new* adulterations to notice in opium; an unusual proportion of leaves may often be observed, and a stray bullet or piece of quartz may often be picked out; the monotony is sometimes relieved by finding a considerable quantity of starch. Powdered opium mixed with powd. ext. of liquorice is yet to be seen, and some druggists regularly send their proportion of ext. of liquorice with their opium to be ground at the mill.

"*Saffron* still seems to be a favourite article to adulterate. When the florets of Calendula officinalis, carthamus, arnica, and fuminella are mixed with it, they may be detected by the sulphuric acid test. Chalk and sulphate of lime are among the recent adulterations noticed, as much as 23 per cent. of chalk having been discovered in one sample. Glucose has been used to keep it moist, and increase its weight.

"*Sarsaparilla* has been making its appearance within the last few years of very poor quality, the Honduras variety in particular. The outside of the bundle may appear quite bright and clean, but when the inside is exposed to view, a system of rascality is often brought to light that was not thought of, lumps of clay, pieces of foreign root, large woody pieces of the caudex, &c., &c., and plenty of dirt, are to be seen. On one occasion a friend of the writer was engaged in chipping and bruising about three or four hundred pounds for a wholesale druggist, and several bundles had been opened having the above bad character, when a disagreeable itching led to the disclosure that it was also adulterated with fleas!

"*Senega* has been found mixed with cypripedium, by so good authority as Dr. F. A. Flückiger. It is not rare to see it with considerable of the stem attached, and with more dirt adhering to it than it ought to have.

"*Senna* as a general thing has to be garbled half away before it is in a passable condition. What a saving in freight alone might be effected, if senna could be garbled in Alexandria.

"*Soap, Castile,* still comes to us containing as high as 30 per cent. of water, and some even more than that. A lot which had been in store several days, lost in drying 29 per cent.

CHEMICALS.

"*Acetic Acid* is sometimes met with weakened with water, and its large use by vinegar manufacturers is sufficient temptation to adulterate it with dilute sulphuric acid.

"*Acid, Muriatic,* chemically pure, has been tested by Mr. E. A. Ebert, which contained arsenious and sulphurous acids.

"*Acid, Sulphuric,* C. P., has been sold containing a large proportion of sulphate of lead. It has been found containing a certain proportion of a cheap salt like sulphate of soda or magnesia, added for the purpose of increasing its specific gravity, and giving it body.

"*Tartaric Acid* has been met with containing 50 per cent. sulphate magnesia. Alum is said to be mixed with tartaric acid to increase the profit.

"*Ammonia Carbonate* is the victim of a gross imposture; a party in Chicago manufactures it from water of ammonia, glue, and bicarbonate of soda. The bicarbonate of soda and water of ammonia, we are informed by Prof. Maisch, forms, when dry, a hard translucent mass, resembling genuine carbonate.

"*Aqua Ammoniæ, F. F. F.*—The old-fashioned term F. F. F., as above applied, has been lately disgraced of late years. It *used* to mean strong water of ammonia 20°, but by a rapid system of decay it has degenerated into a mere trademark. Of course those using it as such do not tell their customers of this fact, but leave them to find it out for themselves. A sample marked and sold as F. F. F., on being tested by its spec. grav., was found to contain 9·60 per cent. of ammoniacal gas intead of 17 per cent.

"*Ammonia Muriate* is sometimes met with of very poor quality; iron is often visible on the surface, and becomes still more apparent when dissolved. The purified granular salt should be the only one sold at the dispensing counter.

"*Antimony, Black Sulphuret,* has received considerable notice lately on account of the amount of adulteration practiced, galena (sulphido of lead), quartz to the amount of 30 or 40 per cent., clay, &c., &c. A good article is, however, procurable.

"*Arsenic, Powdered,* is very apt to be adulterated; sulphate of lime, sulphate of baryta, &c., are used. The pharmacist should purchase and dispense the lump arsenious acid alone.

"*Bismuth* metal almost always contains arsenic.

"*Bismuth Subnitrate* is said to be adulterated with phosphate of lime to the amount of 28 per cent.

"*Citrate of Iron and Quinine* is seldom found made strictly according to U. S. P. formula; principally because it will not produce a sufficiently soluble salt, manufacturers add citrate of ammonia to make it soluble, and some leave out a considerable portion of the quinia to accomplish the same end, and when citrate of ammonia is added and quinia left out, there is certainly no difficulty in making a soluble salt.

"*Chloralhydrate* has been discovered mixed with alcoholate; one test is the difference in their boiling-points. Pure chloral-hydrate boils at 95° C., and the compound of chloral and ethylic alcohol boils at 115°. Another means of detection is sometimes used; sulphuric acid, when applied to pure hydrate, remains colorless; with the alcoholate it turns brown. When warmed in nitric acid of 1·20 spec. grav, chloral hydrate gives no reaction, or but slight; with the alcoholate a vehement reaction, with evolution of nitrous oxide gas, take place.

"*Chloroform* is still sometimes met with diluted with alcohol, and some that is sold is really not fit for inhalation purposes on account of not being sufficiently purified. There is reason to believe that partially decomposed chloroform has been sold, through ignorance on the part of the dispenser. Nitrate of silver is useful in detecting decomposition in chloroform, by showing a precipitate of chloride of silver on account of liberation of the chlorine, in process of decomposition.

"*Cream of Tartar,* it is hardly necessary to say, is yet grossly adulterated, and the term "Strictly Pure" (merely used as a trade mark), Pure, No. 1, No. 2, are well known, with the exception of the first, to mean varying proportions of terra alba and cream of tartar.

"*Epsom Salt* has been found in the Western market, by Mr. F. Mahla, of Chicago, to be nothing more than finely crystallized Glauber salt. There is, however, little danger to be apprehended from this adulteration now, as they are sold at about the same price, and it would not pay to run the risk of detection.

"*Ether* requires watching. Ether fortior is sold for inhalation purposes, containing a large proportion of alcohol; this may possibly arise from the druggists dispensing *photographic* concentrated ether, which is purposely made to contain alcohol, in order to dissolve the gun-cotton, and this, by the way, leads to a good test for ether. If a small quantity of gun-cotton added to the sample of ether is not disintegrated after standing a few minutes, the absence of alcohol may be known. But the hydrometer should be used freely, and ether rejected that is not up to the standard.

"*Lead, Acetate of,* was in the market, which contained a large percentage of crystallized nitrate of lead, and a lot of so-called damaged acetate of lead was offered to a factor of hair preparations, which proved to be sulphate of zinc *damaged* and in lumps. A. E. Ebert reports the above. Does not the offering of such a parcel to this gentleman of 'Warranted Purely Vegetable' proclivities, argue a low opinion of his sense of moral rectitude? First-class druggists rarely or never have such impositions OFFERED them.

"*Morphia Sulphate* is frequently open to suspicion. An ingenious adulteration in New York City was discovered lately. Sulphate of quinine was put up in the regular sulphate of morphia bottle, and, of course, labelled and stamped as if it *was* pure sulphate of morphia. This could easily be detected by the simple test of difference in solubility, if suspected in time, but a peddler could readily dispose of it to a class of druggists who are willing to buy anything so 'it's cheap,' and such deserve no sympathy when they are duped.

"*Phosphorus,* according to Dr. C. J. Rademaker, of Louisville, Ky., sometimes contains arsenic.

"*Potassium Bromide*, in granular form, has been observed by Mr. A. E. Ebert to contain considerable water of hydration.

"*Potassium Iodide* has frequently been found in bad company. Bromide of potassium is used to adulterate it quite often. This is a very specious fraud, and one apt to deceive the most wary. Iodide of potassium, made in New York, was found to contain carbonates in considerable quantities, by Mr. A. E. Ebert. When it contains carbonate of potassa, it is very liable to adhere to the sides of the bottle and attract moisture.

"*Quinia Sulphate* is the salt which, more than any other, has received the attention of the avaricious fraternity. Sulphate of lime, mannite, cinchonia under the name of sweet quinine, cinchonia under the name of cinche-quinine, muriate of cinchonia under the name of light sulphate of quinine, and muriate of cinchonia as French quinine, have all lately been introduced with the intention of furnishing this indispensable article "to a generous and discriminating public" at figures to please the most fastidious. A secondary consideration, of course, is the enriching of the coffers of the perpetrators. It is to be hoped that the same activity in detecting these frauds will be sustained, and that the journals will publish and republish the exposures, that all may be put on their guard. The old trick of substituting salicine, was discovered a few months ago by a physician in Philadelphia. He prescribed a large dose of quinine, and not getting the effect he should, he inquired of the patient, particularly, whether the urine had any unusual odour, and he immediately said it had the odour of teaberries. This led him to suspect the addition of salicine, and on looking further into the subject, his suspicions were fully confirmed.

"*Rochelle Salt* has been offered for sale containing at least 25 per cent. of sulphate of soda. Chloride of barium and nitric acid will effectually detect this deception.

"*Santonine* was to be seen last spring in the New York market contaminated with small particles of mica. As santonine is generally prescribed in crystals or powder, this fraud might have been carried on a long time before being disclosed. It may be easily detected by placing on a red-hot plate, when the santonine will be consumed, leaving the mica.

"*Silver Nitrate* made for the government was sold in Chicago, which contained 5 per cent. of copper. In a lot of government nitrate of silver, examined by the writer, pieces could be picked out of an emerald-green colour, and it looked as if it had been made by simply dissolving coin or other alloy of silver and copper in nitric acid, and crystallizing without any attempt at purification.

"The adulteration of *Sulphur Precipitated* is the title of an article in the London Pharmaceutical Journal for February, 1869, by Prof. Attfield. Out of eight samples examined but one was pure; six of the rest contained upwards of 66 per cent. of sulphate of lime. Our English brethren seem to use this adulterated article almost exclusively. It is cause for congratulation that we are, at least, measurably spared this infliction; that manufactured in this country is generally the pure article.

"*Sulphur, Flower of*, containing 50 per cent. of gypsum, has been noticed. Sometimes ground sulphur is sold for the sublimed; but few, however, would be deceived by this fraud, as there is a great difference in appearance.

"*Tartar Emetic*, though not used as much as formerly, is still not beneath the notice of the adulterators; two samples out of eight were found adulterated to the extent of 8 and 11 per cent. with cream of tartar.

THIRD CLASS.—PHARMACEUTICAL PREPARATIONS AND MISCELLANEOUS ARTICLES.

"*Citrate of Magnesia** has been for a long time a troublesome article. Many and various formulas have appeared from time to time in the journals, and the expedients that have been resorted to, looking to a prevention of precipitation, have been innumerable. The honest apothecary wonders how it is that his enterprising neighbour at the next corner always has a bright clear solution, and can sell it for twenty cents per bottle. He at last finds out that the so-called citrate of magnesia contains neither citric acid nor magnesia, but is merely a solution of tartrate of soda.

"*Extracts* afford ample opportunity for adulteration, and it is very common to find solid extracts containing all the chlorophyll and mucilaginous constituents of the plants from which they are obtained. Damaged drugs are worked up into extracts, and it is believed that the poor quality of extracts is to be attributed more to this fact than to excessive heat in evaporating, which is considered by many to be the cause.

"*Extract of Liquorice* is rather a badly-used article. It is sometimes adulterated with charcoal, and is not unfrequently met with containing gritty particles, very perceptible when chewed, showing the presence of inorganic matter of some kind.

"It is difficult to understand how *Extract of Calabar Bean* can be sold at the price it is, say 1.25 dol. per ounce. A. E. Ebert paid 4 dols. per pound for the bean alone, and obtained one ounce of extract as the yield; the cost of menstruum, labour, waste, etc., is to be added.

"*Fluid Extracts* offer the same facilities for the exercise of this most reprehensible business. Weak fluid extracts are not rare, but as they can generally be traced to the manufacturer, his reputation is apt to suffer. As in the case of powders and extracts the only reliance is on the character of the men who make them. A manufacturing pharmaceutist made *Fluid Extract of Ergot* for the same price that the *crude drug* was selling for in large quantities. This, of course, could not be ounce for ounce, and it would barely pay such a manufacturer to make two ounces of it represent an ounce of the drug. His defence was that a wholesale druggist had limited the price of two hundred pounds of the fluid extract, and he was going to make it for him at his price; and of course the druggist was alone responsible, the manufacturer not troubling himself with what the druggist was going to do with it. Think of a physician relying on a dose of such a fluid extract in a most critical case! a thing almost sure to occur.

"*Hair Tonics, Washes, Restoratives, etc.*, have been subjected to an examination by Professor C. F. Chandler, of New York. Of sixteen samples all, with one exception, contained lead, and two that professed to be vegetable contained 5 and 7·13 grains of lead in a fluid ounce.

"*Syrups* are now made with varying proportions of glucose, particularly those used for soda-water; it gives them body without interfering with the flavour of the *fruit?* and whilst it cannot give very much sweetness, it does not take much away. Glucose also enters as an ingredient in the now popular cordials, syrup for raspberryade, etc., some druggists doing a large business in supplying the liquor stores with these requisites. Its presence may be detected by Trommer's test readily.

DISCUSSION.

"Prof. MARKOE.—I have generally kept a pretty watchful eye on the adulterations in the Boston market. I have observed one or two in white castile soap. The Boston market has suffered badly from this article. I have seen samples there of very fine-looking white soap, which would deceive almost anyone. Being governed entirely by its appearance, people would take it for an exceedingly nice fine article of white castile soap. It had no perceptible odour until after washing; then, in the course of ten or fifteen minutes, the characteristic odour of cocoanut oil would be perceptible. The principal advantage of using cocoanut oil for making this soap is its capacity for holding in suspension an immense quantity of water—much more than any other oil. Then I wish to make one observation on a statement made in the report, which is likely to do injustice to some honest manufacturers, on the article of vinegar. It was said that many samples would give a precipitate with chloride of barium. That is too delicate a test to use for sulphuric acid, as it will necessarily give a precipitate, because the sulphates contained in the vinegar are decomposed by the chloride of barium. The best test which is applicable, is one that will detect free sulphuric acid, and not react with the small amount of sulphates, namely, chloride of calcium.

"Mr. BRADY.—I will make one or two remarks touching matters in the very able report that we have listened to with so much interest. I can hardly allow the statement

* *Liquor Magnesiæ Citratis* (U.S.P.) is made by dissolving 450 grains of citric acid and 120 grains of magnesia in four fluid ounces of water, and filtering into a twelve-ounce bottle containing two fluid ounces of syrup of citric acid; forty grains of bicarbonate of potassium are then added, and sufficient water to nearly fill the bottle, which is then closed with a cork, and tied down.—*Chemists' and Druggists' Almanac*, 1872.

to pass, that English pharmaceutists prefer precipitated sulphur containing 66 per cent. of sulphate of lime. It is, perhaps, scarcely understood here that in England there is an article called 'milk of sulphur,' which is still a good deal used by the small dealers in country districts, as well as the pure precipitated sulphur, which alone is used in respectable pharmacies. That explanation was made at the time the paper was read by Dr. Redwood, and the matter was fully discussed then. I think it is due that we should not be set down as quite so far lost to a sense of propriety as to prefer precipitated sulphur adulterated with sulphate of lime to the purer substance. One remark in explanation of a matter in which some doubt was expressed I will make, also, and that is as to the price of extract of calabar bean. I think I can explain the apparent anomaly, that for a considerable time the extract of calabar bean could be bought in England for a price for which it could not be made; the fact being simply that a single firm of manufacturing chemists cleared the market at the rate of a few pence per pound. Several hundred pounds were bought at that price, and extract was made from it; afterwards, the price of calabar beans rose to four shillings or more, this firm was able to supply their extract at a very low price. I have very little doubt that that is the reason of the quotation alluded to. I may say I examined the extract myself, and so far as I can tell, it was a perfectly genuine extract, had full power in contracting the pupil, and probably was the only extract used in England for a considerable time.

"Mr. Remington.—That information from Mr. Brady I know will be very useful to every member of the Association, and I am glad to hear it. A number of druggists have spoken of the same thing to me, and I shall be very glad to tell them in regard to it. In reference to precipitated sulphur, I referred not only to that report which was published in our journals, but to the remarks of Messrs. Attfield and Redwood, and a number of other pharmacists and chemists who discussed that question at that time, and who admitted that the precipitated sulphur, mixed with 66 per cent. of the sulphate of lime, was common in the English market. The English article that comes over here is generally milk of sulphur, as Prof. Attfield terms it, in distinction from precipitated sulphur, while the one that is manufactured here is generally precipitated sulphur. The English article is sold at a less price.

"Mr. Brady.—In regard to milk of sulphur, it is not an adulterated article, but it is prepared by the old process of precipitating the alkaline solution of sulphur with sulphuric acid instead of muriatic acid. We hold to old things in England, as you know, and there has been a fancy in country districts for the old white impure sulphur. In a strict sense of the term, it is not an adulterated article.

"Prof. Ebert.—I am aware that some sulphur sold in this market is really this adulterated article, and that it is sold by some of the leading houses as a very pure article because it is imported from England.

"Prof. Procter.—Referring to the subject of precipitated sulphur, if I recollect the argument used by the British journalists and professors, it was this: that at one time the sulphate of lime sulphur was an officinal preparation in one of the Pharmacopœias, and was presented to the people, and got into use as a legitimate article; that one of the reasons it was now used and its use kept up is, it is much smoother and easier to take, and even where knowledge of the adulteration is held by the persons that use it, they prefer it because, like Henry's magnesia, it is much easier to take than the other article, only in that case they are both equally pure, while in case of the sulphur, one is adulterated.

"Prof. Markoe.—I would like to say a word in regard to that castile soap, because it produced quite a commotion in Boston. There were several hundred pounds thrown on to the market, and it deceived some of our best pharmacists, who did not take pains to examine it. Some was offered to the establishment I am connected with, but I took pains to assay it, and found it contained a large proportion of water, which is the principal reason for substituting it for the genuine. In addition to that its very beautiful colour was due in large part to the addition of a large proportion of steatite, or French chalk. The sample I assayed contained 25 per cent. of steatite, in addition to the other ingredients. This can be detected instantly by dissolving the soap in water; the soap will dissolve, and allow the steatite to settle. Another preparation noticed in our markets was the oil of santal, which is very badly adulterated. One sample that was examined by me was composed of castor-oil as a basis, perfumed by the addition of oil of copaiva and otto of roses, being very similar in character to the oil in the wholesale market under the name of the oil of santalum. I may say that in our market, and also in the New York market, it is exceedingly difficult to get a sample of oil of santal-wood that is fit to use.

"Mr. Saunders stated that he had seen oil of peppermint adulterated with castor-oil, one sample containing 25 per cent. of the latter."

Medical Gleanings.

MEDICAL journalists are remarkable for an almost fastidious delicacy of expression in their references to each other. Here are a few specimens culled from an almost simultaneously issued group. In one "M.D., F.R.S.," disagrees with Sir William Gull's address as President of the Clinical Society. Instead of explaining why he disagrees, he chooses the much more simple method of supposing "that the doctor's head had been turned by the novelty of his position by being brought so unexpectedly into the presence of Royalty." Then a certain "we," who tells us that "ourselves long years ago graduated with the highest honours," feels it laid on his conscience to take up his parable against the London University. This very learned *we* is "determined at all risks to speak out." The influence of the university it appears is "to stimulate cram, and glorify sham," and "though the most pretentious of all the corporations *connected with our Profession*, it is after all but a great sham." The italics are ours, but the capital P is "we's." The Irish medical journal furnishes the next example of the universal fraternity of the profession. A certain Scotch doctor had recently lectured on the progress of medical science, which he credited to Scotland and England mainly, ignoring the labours of Irish practitioners altogether. "We are accustomed to such slights," says our contemporary, "but would only remind Dr. Aitken and other professors from the canny north, that to Irish science is due the speedy method of cure of the peculiar skin disease so prevalent in the region of the thistle, a fact that of itself would demand some grateful recognition." The *Lancet* is always on the boil, and a collection of its vituperative criticisms would be dull and wearisome. The first we come at will serve as a sample. Respecting anti-vaccinators, who have at least a strong *primâ facie* case, and whose prejudice against poisoning their children's blood deserves to be met with at least respectful argument, the *Lancet* makes this assertion, which may be evidence of conscious strength, but which reads more like a bully trying to hide his weakness: "We have long since come to the conclusion that reasoning and common sense were thrown away when used to convince anti-vaccinators. A man who does not see that vaccination, whatever the slight objections to it, is a great boon, and capable of being made, if freely and repeatedly used, a perfect preventive of small-pox, is mentally peculiar or defective."

The *Leavenworth Medical Herald* reports an operation in the Cincinnati Hospital of astounding magnitude. The operation was that of removing an immense ovarian tumour from the stomach of the wife of Hon. T. A. Plants, ex-member of Congress from the Pomeroy District. That part of the tumour removed weighed sixty-two pounds, and Dr. Dunlap estimates that enough of fluid matter was lost to make the aggregate weight seventy-four or seventy-five pounds. Mrs. Plants stood the operation remarkably well, and should there be no inflammation she will soon be about again. Inflammation of that part of the body from which the tumour was taken is the only thing that is feared.

We like to report natural monstrosities in this column, and in an American exchange we find one exactly to our mind. There resides at Covington a man with a hairy tongue. The hair grows thickly, and is over half an inch long, of a sandy red colour, and sloping backwards so as to hurt him when he speaks. At the root of each hair the flesh is blue. He has no hair on his face, though he is fully forty years old. Except a thickness of speech, caused by the growth of hair on his tongue, his pronunciation is

perfect. He is employed as a coal-heaver, and anyone wishing to do so, can see him and his tongue. He has no hesitation in making faces for those who call on him.

English visitors to the United States may be interested to know that there are seven places named Cevington in various States. We are unable to indicate in which this attraction resides.

The Philadelphia *Medical and Surgical Reporter* has sought for "the first medical journalist," and has turned him up in Dr. Nicholas de Blegny, who was at one time physician to Louis XIV. His journal first appeared in 1680, and was suppressed in 1684. Its original title is now undiscoverable, but it seems that a certain Dr. Pierre Bonnet, of Geneva, regularly translated it into Latin, and published it in that city as long as it lived under the title of the *Zodiacus Medico-Gallicus*. It came out monthly, and would appear to have advocated "advanced" views; at any rate it was the Hippocratic, or old school, which obtained its suppression. Its unfortunate editor managed some years after to incur State displeasure, and in consequence spent seven long years in the seclusion of a cell in the castle of Antwerp. When released, he withdrew to the quiet old city of Avignon, and died twenty years after, in the year 1722, at the age of seventy.

"Example is better than precept." Acting upon this wholesome maxim, a medical practitioner stated during the progress of a case in the Court of Queen's Bench the other day, that he had been vaccinated 477 times. It was his practice to vaccinate himself when parents objected, to prove that there was no harm in it.

Hospital Sunday in Liverpool this year yielded the splendid gross total of £8,022. After deducting expenses, the Committee were able to distribute £7,800 among the institutions of that town. The sum distributed last year was £4,500. When will London follow this noble example?

The Philadelphia *Medical Reporter* makes a proper protest against the narrow materialistic views which much physiological learning seems to have cultivated in the mind of the eminent German physician, Professor Rudolph Virchow. Professor Virchow is one of the most conspicuous of living medical teachers, but he seems sadly wanting in that modesty which is often characteristic of scientific scholars, at least in other departments of inquiry. The *Reporter* gives us a few specimens of his dogmatism, extracted from an address which he recently delivered at an annual meeting of an association of German physicians and naturalists. Here is one specimen:—"When a man says: 'I am of opinion that a personal soul exists, that it is separable from the body, that it uses this body for a time, but has no absolute need of it for its own existence;—my friends, when a man says this, there is no use of reasoning with him, for there is no possibility of coming to an agreement. When I examine what is comprised under the idea of a soul, I encounter a number of organic activities, which are confined to definite regions and organs, clearly localised. Now it is impossible that the power goes elsewhere and the organ remains, for these activities are absolutely connected with the organs, and cannot be found or shown to be where those organs are not." When Professor Virchow gets somewhat wiser he will discover that a belief in a "personal soul" is attained by some very different investigations and considerations than any which he with all his boasted science of organism is able to present.

There are more inconveniences attending the loss of a leg than superficial thinkers would be likely to credit. An American author who has separated from one of his useful limbs complains in a good-natured strain that he is looked upon as public property, and almost bored to death by the many inquisitive strangers he meets in his travels. "I can never," says he, "obtain a moment's rest in any public place. I no sooner take a seat in a car, restaurant, or lecture room, than some one near me, whom I have never seen before, introduces himself with the stereotyped remark, 'I see you've met with a misfortune,' and on my assenting, proceeds to ask the following questions: 'Did you lose your limb in battle? What battle? Did a cannon ball take it off? A rifle ball, eh? Did it knock it clear off? Did it sever an artery? Did it hit the bone? Did it break it? Did you afterwards find the ball? Was it crushed out of shape? Did you fall when hit? Did you walk off the field? Who carried you off? Did you feel much pain? How long after you were wounded was it amputated? Who performed the operation? Did you take chloroform? Did it put you to sleep? And didn't you feel the operation? Not even the sawing of the bone? Could not your limb have been saved? Was it taken off right where the wound was? Can you wear an artificial leg? Would the Government furnish it if you could? Do you draw a pension? How much? How old are you? What is your name? What did you do before the war? Don't you often wish you hadn't lost your leg? How does a person feel with a leg off? Does it ache when the weather changes? Would you rather lose a leg than an arm? I have heard persons say that an amputated limb still feels as if it were on; is that so? How do you account for that?' "

PHARMACY IN AUSTRIA.*

BY THOMAS GREENISH, F.C.S.

In speaking of North Germany, I remarked that the pharmacies were in external appearance little more than private houses; but in the cities of Austria that I visited the case was different.

Most of the pharmacies in Prague had imposing plate-glass fronts, but no danger-signal hung over the door, neither did a coloured carboy throw its glare into the street; the windows were kept studiously clear of everything but a few slips of porcelain, on which were the names of preparations much in demand, or proprietary articles, among which Liebig's Fleisch Extract occupied a prominent place. There is in this city a Pharmaceutical Society for Bohemia, which meets once a month; but it is as yet in its infancy, and possesses only a very small library. Membership is purely voluntary. In Prague there are sixteen pharmacies to 180,000 inhabitants.

From Prague I passed on to Vienna. There, the pharmaceutical establishments are for the most part elegant, having windows of plate-glass scrupulously free from all obsolete symbols. One curious feature both in Prague and Vienna is the general use of signs attached to pharmacies, such as prevailed with shops in general in old London; thus—"Apotheke zum Goldenen Hirschen" (Golden Stag). From one generation to another the sign remains the same, however often the business may have changed its proprietor; probably this custom may be advantageous to a business during successive changes.

In Vienna, and in each of the chief cities of Austria, there exists a pharmacists' Gremium, a legitimate corporation, as old as the pharmacopœia. This is an institution peculiar, as far as my experience goes, to Austria; and as it occupies a very important position with regard to the practice of pharmacy, and the education of the pharmacist, it is well that the distinction should be correctly understood between the Gremium and the Austrian General Pharmaceutical Society.

The Vienna Gremium dates from 1770, and includes all the pharmacists in that city, every pharmacist in Vienna being *ipso facto* a member of it. The same remark applies to the pharmacists of Prague, and the other cities as regards their Gremiums. The Gremiums in the different cities are called chief Gremiums; these are independent of each other. There are also smaller Gremiums in the provincial towns, called *Filial* Gremiums, which also are independent of each other, but in connexion with the chief Gremium of their district.

The duties of the Gremium are to receive and examine apprentices, discuss trade matters, look after the strict observance of Government regulations, exercise a certain discipline over its members, make proposals and offer advice to the Government, besides making the latter acquainted with the wishes and wants of the body. It never meets for scientific, but only for administrative purposes.

On the books of the Gremium every apprentice is entered as well as every assistant, and the name of the proprietor of every shop is registered. Before the Board of the Gremium the apprentice passes his "Tirocinal" or Minor Examination. This board consists of a president, vice-president, a Government medical officer, and three members, pharmacists, chosen from the Gremium. It is with the Gremium only that the Government confers on matters connected

* Abstract of a paper read at the Evening Meeting of the Pharmaceutical Society of Great Britain, May 1, 1872.

with pharmacy, and it generally applies to that of Vienna. The Gremium meets four times a year, and all pharmacists are of necessity members of it; but they are only connected with the Austrian Pharmaceutical Society, in so far as they have voluntarily joined that body.

In all the chief Gremiums there are benevolent funds for distressed members, and also pharmaceutical assistants. In that of Vienna the fund is about £3,500; the members pay together about £80 a year to it, and £250 is spent yearly in affording immediate relief and permanent aid.

The candidate for apprenticeship to an apothecary must bring with him his last certificate, showing that he has passed through four classes of the gymnasium or classical school satisfactorily. The certificate must be presented to the Board of the Gremium to which the apothecary to whom the candidate is to be apprenticed belongs, and in order to become an apprentice no further examination is required. The term of apprenticeship is three years, during which time the candidate is engaged in learning practical pharmacy, with time for study, and the opportunity of attending lectures. At the expiration of his three years he is again taken to the Gremium by his principal, and has to pass before that Board his Tirocinal, or Minor Examination.

This examination comprises botany, materia medica, chemical and pharmaceutical preparations. He must also read and translate prescriptions, and give proof of practical skill in pharmacy. Having passed this examination, he receives a certificate, signed by all the examiners, with the seal of the Gremium attached to it. He now becomes an assistant, in which capacity he must serve two years in a shop, but he cannot yet become the proprietor of one; and for every young man in an establishment with this qualification only, the proprietor is responsible.

At the expiration of two years thus spent, the assistant acquires the right of attending lectures at the university, where he must remain two years or four sessions. In the first year he takes mineralogy, botany, zoology, and physics. He must then pass an examination entitling him to enter the second year's classes. In the second year he takes pharmacognosy, chemistry—analytical, organic, and inorganic—and pharmaceutical legislation, together with laboratory work. At the end of the second year he undergoes his second examination; if successful, he receives his pharmacist's diploma, which entitles him to undertake the independent direction either of the establishment in which he has served, or of any other, or he can establish a new business if he gets the Government concession.

There is an annual visitation of pharmacists' shops. In university towns the commission for that purpose consists of the Dean of the medical faculty, the professors of botany and chemistry, and the two presidents of the Gremium. The result of the examination is noted in a protocol, which is signed by the examiners, and countersigned by the proprietor of the shop, and always forwarded to the Government. In smaller provincial towns the examination is made by the Government medical officer alone. The fee for such an examination is six ducats, or £2 14s. for university towns, and three ducats for smaller ones. If the result be unsatisfactory, a second examination takes place after a short interval, and for this another fee has to be paid by the unfortunate proprietor. Pharmacists in Austria think it very hard that they should have to pay for an examination made solely in the interests of the public.

In Vienna there are fifty-nine pharmaceutical establishments to 600,000 inhabitants. It is curious to notice the different customs that prevail as regards dispensing. In England, as a rule, great care is taken to put an external application into a blue bottle, and label it with a coloured label. In Austria there is no difference made between external and internal medicines, either in the shape of the bottle or the colour of the label. Even if the bottle contains a poison, it is not permitted, by attaching a poison label, to inform the patient that the lotion prescribed by the physician contains a poison; neither is it permitted to translate a prescription for a patient. In fact, in Austria it is thought that we have made a mistake in printing the British Pharmacopœia in English, and some English pharmacists are of the same opinion.

Assistants have usually two half-days a week for recreation, and apprentices two hours or so every day for study.

The Austrian General Pharmaceutical Society has been in existence eleven years, and numbers between 500 and 600 members from different parts of Austria. Its museum contains a large collection of materia medica, drugs, chemicals, minerals, etc. A laboratory has just been completed, in which instruction is given to students; it is not intended for pharmacists alone, but also for meeting the wants of the public by the analysis of water, urine, soils, etc.

In the rooms of the Society lectures on chemistry, botany, and materia medica are delivered to apprentices three times a week. The Society holds annual meetings; every third year it meets in Vienna, and in the intervening years in one or other of the chief cities, such as Prague, Brunn, &c. There are separate pharmaceutical societies in Prague, Gratz, Lemberg, &c., but little attention is paid by them to scientific subjects; they deal chiefly with the social and business interests of the members, and do not, like the Vienna Society, provide lectures for apprentices.

It is hoped that an important alteration in the Apothekerordnung will be secured. At present, questions affecting pharmacy are determined mainly by medical men and chemists; and the alteration looked for in the new Apothekerordnung is that on all matters affecting the interests of pharmacy, pharmacists themselves may be largely represented, and have more influence. In fact, great efforts are being made by the body to shake themselves free, and to show themselves worthy of freedom.

From Vienna I went down the Danube to Pesth, in Hungary. This city has a population of about 200,000, and fourteen pharmacies; while Ofen, or Buda, on the opposite side of the river, has ten pharmacies to 58,000 inhabitants. Hungarian pharmacy, I am informed, is much behind that of Germany; at present the Austrian Pharmacopœia is used, but a hope was expressed to me by a Hungarian pharmacist, that they would soon have a pharmacopœia for Hungary; and considering, that of the mixed population of the Austrian Empire, Hungary numbers about ten millions, and also that Hungarian counsels have prevailed with the Austrian Government, it is quite possible that they may succeed in their wishes.

After Pesth I went to Salzburg, with its 20,000 inhabitants and four pharmacies, but this is not a place of sufficient importance to require any notice.

In education, scientific attainments, and social position, the German pharmacist appears to shadow forth the pharmacist of the future for Great Britain. The sound education required of the candidate for apprenticeship is very important; while at school he can only rise from class to class by undergoing an examination, and it is only after he has passed through four classes that he can obtain the certificate without which he is not received as an apprentice. During his three years' apprenticeship—and three years is ample time for apprenticeship—he is allowed two hours a day for study, and his employer is required by the Apothekerordnung to assist him in his studies, by providing him with books and instruction. The employer is reminded that there are duties as well as rights, trouble as well as profit, in the proper education of the apprentice. According to the Prussian Pharmacy Laws, all apothecaries may take apprentices, but only such as have by nature good parts, and as are sufficiently prepared by education and good moral training. Apprentices may not be taken before the age of 14; and no apprentice shall be taken until he can translate easy passages from a Latin author; the master has further to see that he writes fluently and distinctly.

It is the duty of the master to provide proper books for the apprentice; and it is ordered that an apothecary be allowed to take only as many apprentices as he has qualified assistants. If the business be so inconsiderable that one person only be employed, then no apprentice can be taken unless it be impossible to procure an assistant, or the master be sufficiently skilful to take the place of assistant.

To prevent the increase of badly-trained assistants, it is ordered that no master shall give his apprentice a certificate until the said apprentice has been examined by the Government medical officer in presence of the master. The examination shall refer to such subjects as he has a right to expect from so young a man. He shall be particularly examined as to his practical knowledge of pharmacy and handiness in doing ordinary work, as practical knowledge is of more importance than mere theory in an apothecary. Should he be found not yet a capable assistant, it is the

duty of the Government medical officer to inform him that he cannot yet leave his apprenticeship, but must remain until he has fully qualified himself. Should it, however, appear that the master is more in fault than the apprentice, and that he has neglected him or shown his own incapacity to instruct him in the business of an apothecary, that master shall be forbidden to take another apprentice.

The Minor examination is a qualification for an assistant only; he cannot conduct the business in the absence of the principal, neither can he purchase a business for himself. After the Minor, three years must be spent in the practical details of pharmacy, and then the assistant goes to the university. Here lectures, with practical work, occupy his time, and after two severe examinations he procures his diploma, a qualification which enables him to conduct a pharmacy.

In the examinations both of North Germany and Austria a knowledge of the political laws which govern the practice of pharmacy is required of the student; and in practice he does understand the letter and spirit of those laws. In the old Apothekerordnung, it was imperative that every pharmacy should have a laboratory attached to it; this brought into existence small apparatus suitable to the requirements of a pharmacist desirous of making the preparations of the pharmacopœia for his own establishment, a want much felt in this country where our pharmaceutical engineers cannot be made to understand that an ordinary room may suffice for a very efficient laboratory, where an acre of ground is not available.

I hold it to be the bounden duty of every one that takes an apprentice to teach him, or cause him to be taught, to make every preparation in the British pharmacopœia, and this may be done at a very moderate outlay. He should also be taught the history of most of the substances which constitute our materia medica, as well as how to recognize them.

In every city and town in North and South Germany, and also in Austria, the number of pharmacies is limited by Government regulation; it averages one pharmacy to about 10,000 inhabitants, and unless the population very much increases, no addition is made to the number. When there exists an apparent necessity, an addition can take place by Government concession. The pharmacists having this privilege are obliged to charge all drugs, and dispense medicines according to the price in the Arzneitaxe. This name may convey to the British pharmacists an erroneous impression as to its use; it is not a tax, but a medicine price-list. To give an idea as to its working, I will take this prescription:—

Acid Tannic 0·1
Opii Puri 0·025
Sac. Alb. 0·3
Dos. x.

	Pfennige.
Acid Tannic 1·0	3
Opii Puri 0·25	1·0
Sac. Alb. 3·0	3
Mixing the powder	8
Three weighings	2
Dividing the powder (3 pfennige each) ..	3·0
Box with gold label	2·3
	7·9*

This limitation of pharmacies by Government is the question of the day throughout Germany. There is in Berlin an Apothecaries' Assistant Society which is now working vigorously for the abolition of this privilege, while on the other hand, the pharmacists already in business are battling hard against the proposed freedom of trade.

Germany, as regards pharmacy, is on the eve of important changes. This month the "Pharmacopœia Germanica" will be published; on the 1st of August it will come into force throughout the whole of Germany, and in September of this year, the general meetings of the North German Pharmaceutical Society, numbering 14,000 members, and the South German Pharmaceutical Society, will take place conjointly at Frankfort. The question of the amalgamation of the two societies, and of the acceptance, by the latter, of the statutes of the North German Pharmaceutical Society, will be raised and discussed. There will then be for the whole of Germany one State pharmacopœia, one code of pharmacy laws, one arzneitaxe, and one pharmaceutical society. In Austria, also, pharmacists are by no means idle; and throughout the whole of North Germany and Austria, the educational standard for pharmacists is being raised rather than lowered.

* About 8d. English Money.

Corner for Students.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

The chemical formulæ employed in this section are based upon the new system of atomic weights, unless the use of the older system is specially indicated. In the *British Pharmacopœia* the symbols corresponding to those adopted here are printed in heavy Clarendon type. The new editions of Fownes's *Manual of Chemistry*, and Attfield's *Chemistry: General, Medical, and Pharmaceutical*, supply the data required for calculations, and are recommended as text-books.

ANALYTICAL EXERCISE.

The mixture of salts which we purpose giving for analysis this month is to be examined as usual for the metallic and acidulous radicals.

Students who wish to compete should send in their names and addresses before the 20th inst. On the 25th we shall forward samples of the mixture.

Students' papers will be received up to the 15th of the following month.

ANSWERS.

The mixture given for analysis in March contained mercuric chloride, bismuth nitrate, magnesium and calcium carbonates, and sodium phosphate. Iron (triad), potassium, and the sulphuric radical were present as impurities.

It is satisfactory to find that our "Analytical Exercises," which afford such an essentially practical means for the cultivation of genuine chemical knowledge, have given rise to such active competition; especially when it is considered that, as an educational arrangement, the experiment was entirely novel. We have been favoured with a most voluminous correspondence this month; some of the papers being unnecessarily long. None of them represent too much work, but many of them describe the work in too many words. We must ask our correspondents to study brevity in future, and to condense their remarks as much as accuracy will permit. The papers before us testify to the existence of numerous weak points, but to none more clearly than to that of defective observation. Several of them are lengthy accounts of operations, which appear to have led to scarcely any information. Then we have productions displaying a strange tendency on the part of the writers to seize on an idea, supported by the most slender evidence, and in examining into its truth, to interpret everything as favourably as possible. The student who wishes to understand chemical reactions, so as to attribute effects to their real causes, must be actuated by a spirit of truthfulness. If he does not find exactly what he expected, this is no reason why a reaction is to be overlooked. If, for example, potassium is detected in the preliminary, but not in the wet examination, it should not be concluded that it is either present or absent. Under such circumstances, a special examination should be made for potassium, and every attempt made to find out the previous source of error. This will take time and trouble, indeed, but it will ultimately be found to save both.

The value of what is usually called the preliminary examination is not fully appreciated by many of our contributors; who either neglect it altogether, or make a most imperfect use of it. Such preliminary tests as may be found described in any book on qualitative analysis, usually make the wet examination of the mixture much more simple and satisfactory, than it would be if carried out without knowing beforehand what substances shall probably have to be dealt with.

There is one most fruitful source of error to which we wish to draw particular attention—imperfect precipitation. The partial separation of a metal sometimes throws the whole analysis into confusion. Space does not permit us to do more than call the attention of our readers to the precau-

tions which they will find in any work on analysis ; such as the employment of a sufficient quantity of the precipitating reagent, allowing sufficient time for the formation of the precipitate, warming the mixture when necessary, etc. Several of the papers before us show that a quantity of hydrogen monosulphide, sufficient to precipitate all the mercury and bismuth, was not employed. This reagent should be passed through the solution until it smells strongly of hydrogen monosulphide after being well shaken, and gently warmed.

PRIZES.

The First Prize for the best analysis of the mixture of salts has been awarded to

R. H. Davies (Omicron), 17, Bloomsbury-square, W.C.

The Second Prize for the second best analysis of the same mixture has been awarded to

H. Heath (X.Y.Z.), North Main-street, Bandon, Co. Cork.

Marks awarded for Answers.

	Total.
Omicron (*1st prize*)	87
X. Y. Z., (*2nd prize*)	82
J. W. Smith	80
P. W.	76
B. P.	75
Sch. Q.C.C.	74
Pharmacopœia	72
Graham	70
A. F.	65
Platinum	60
J. J. M.	60
P. L. Benson	55
F. W. Fletcher	52
Nil Desperandum	50
Fides	50
A. N. L.	40
F. A. Goodchild	30
Juvenis	20
J. B. Hickley	20
Otho	15
H. C. Corke	15
J. B. Williams	14
A. B.	12

TO CORRESPONDENTS.

*** All Communications should include the names and addresses of the writers; those which reach us after the fifteenth day of the month succeeding that in which the questions appear will be disregarded.

Prizes.—The students to whom prizes are awarded are requested to write at once to the publisher naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

X. Y. Z.—The powder contained about 8 per cent. of the nitric radical. We are rather surprised that you failed to detect it, as otherwise your analysis is very good. It is better not to rely solely upon the ferrous sulphate and sulphuric acid test. You might have improved your paper by adding a summary of results.

J. W. Smith.—Your paper, which measured six feet eight inches in length, was in a rather awkward form. The quantity of calcium present was comparatively large, and it is probable that the residue which you mistook for strontium sulphate, consisted of undissolved calcium sulphate.

Sch. Q.C.C.—The precipitate from hydrogen monosulphide should be well washed to free it from hydrochloric acid (which would otherwise combine with the nitric acid afterwards added, producing aqua regia, which would dissolve some of the mercuric sulphide), then boiled in strong nitric acid, which dissolves the lead, bismuth, copper, and cadmium sulphides if present. Your statement that you failed to dissolve the precipitate must be so far correct, but you give no evidence to prove that part of it was not dissolved. If you allowed the solution tested for magnesium to stand for some time after adding sodium phosphate, you should have said so; because there was no precipitate immediately after the addition of the reagent, it does not follow that magnesium was absent. The platinic chloride test for potassium is valueless in the presence of ammonium salts, as they produce a similar precipitate.

Graham.—You must have had too much free acid in the nitric acid solution examined for bismuth. Before concluding that bismuth was absent, it would have been well to add ammonium chloride to the solution ; if this gave no precipitate, you might then conclude that bismuth was absent; if it gave a precipitate, you could dissolve it in the smallest possible quantity of nitric acid and repeat the water test.

Platinum.—You should have had a much higher place if you had sent us a satisfactory account of the analysis.

F. W. Fletcher.—You state that no decided reaction was obtained with a borax bead. You should have found the bead colourless, which would be a very decided reaction, for copper, cobalt, nickel, iron, manganese, and chromium give coloured beads. When the mixture was treated with water, a reaction took place between the mercuric chloride and the magnesium and calcium carbonates, resulting in the production of mercuric oxychloride. This was the cause of the red colouration.

Nil Desperandum.—You should make your paper more explanatory ; it was almost unintelligible.

F. A. Goodchild.—Ammonium carbonate does not precipitate magnesium at once, and you do not state that you allowed the solution to stand for some time. The sodium phosphate test is a better one. Several of the formulæ employed were incorrect.

J. B. Hickley.—We strongly recommend you to reserve the taste test until the constitution of the mixture is known.

Otho.—When you got a white precipitate with ammonium carbonate, you added ammonium oxalate to a fresh portion of the solution, and finding that a precipitate insoluble in acetic acid was produced, you concluded that calcium was present. There is no evidence to shew that these precipitates were not due to barium. Your examination of the substance appears to have been more random testing, than a systematic analysis.

H. C. Corke.—We much prefer a tabulated account of the analysis.

J. B. Williams.—You do not appear to be aware that proof of the absence of one substance, is as important as proof of the presence of another.

A. B.—You must have had the acetic acid solution of the ammonium carbonate precipitate rather concentrated, so that sulphuric acid gave a precipitate of calcium sulphate. On filtering, and adding ammonium oxalate, you got no precipitate, owing to the presence of sulphuric acid.

F. J. Bond.—Such a precipitate as you refer to may sometimes be separated by allowing the liquid to stand until the precipitate has subsided, and then pouring off the clear portion. As a general rule the precipitate may be collected on a small filter, and dissolved on it, provided the solvent will not act on the paper. When larger quantities of the substance under examination can be employed, it is generally possible to avoid the difficulty to which you refer.

Pharmacy.

A NEW USE FOR GLYCERINE.

GLYCERINE has been found to have remarkably valuable properties as an antiseptic. M. Luton has made some experiments, which he reports in the *Gazette Medicale*. He found that raw mutton chops, pieces of beef, and other articles, were perfectly preserved for forty days by merely dipping them into glycerine. Vegetables treated thus were also preserved for a long period from decomposition.

FRUIT SYRUPS.

It appears that a considerable trade is carried on in fruit syrups, which, on the *lucus a non lucendo* principle, contain no fruit whatever, but are artificially prepared from solutions of sugar flavoured with ether, and coloured with aniline dye. There are, fortunately, various tests for this disgraceful imposture—such as nitric acid, which, when mixed in equal volume with real fruit syrup, causes no change, but turns the imitation yellow. With solution of carbonate of soda, the artificial remains unchanged, and the real becomes lilac or green, so that the preventives against making our interior an ethereal dye-house are easily obtained and put in force.—*Food Journal.*

DIGESTION OF CALOMEL.

In his recent lecture on "Diet and Medicine," Dr. Symes Thompson showed that some drugs undergo a process of solution within the body analogous to that which food passes through under the influence of the digestive juices. With the assistance of Professor Heaton he demonstrated Tuson's experiment on calomel. In one vessel (α) calomel and hydrochloric acid were placed, and in another (β) calomel, acid, and pepsine. After digestion for two or three hours at the temperature of the blood (care being taken that the heat should not rise above 140 degrees Fahr.), the contents of both vessels were thrown on filters. The filtered liquid from the second (β) gave a black precipitate with sulphuretted hydrogen, showing that pepsine had rendered the calomel soluble, while the liquid from the first (α) was unaffected by the gas. This experiment has served to remove much of the difficulty previously felt of accounting for the effect of a salt insoluble in acid, and is of value as showing why calomel does not produce its characteristic effects in cholera and other conditions in which the digestive powers are in abeyance, or when the active ingredients of the gastric juice are wanting.—*Medical Times and Gazette.*

PRESERVATION OF BODIES BY CARBOLIC ACID.

The powerful antiseptic properties of carbolic acid have further confirmed by recent experiments made by Professor Guillery, and communicated by him to the Belgian Academy of Medicine. A subject from the dissecting rooms was enveloped in a cloth saturated with a solution containing 2 per cent. of the acid, and after an interval of four or five days more solution was poured on the body. Careful observations made from time to time failed to detect any cadaverous smell, and six months after the commencement of the experiment the body presented no signs of decomposition, and was but little altered in appearance. This simple and effective means of preservation, through the ageney of carbolic acid, will doubtless be turned to future account.

CARBOLIC ACID CERATE.

Dr. Boehmo recommends the following as an excellent formula:—R. Adipis, ℥x., cerœ alb. ℥v., terebinth. Canad., acid. carbolic, āā ℥j. Melt the lard and wax together, add the Canada balsam, and when the mass begins to cool stir in the carbolic acid. The addition of the balsam corrects the disagreeable odour of the acid and renders it slightly adhesive.

CARBOLIC ACID AS A LOCAL ANÆSTHETIC.

If a portion of skin be covered with a cloth soaked in a saturated solution of carbolic acid for half an hour, and then a streak traced across the surface with a camel's-hair pencil diffused in acid liquefied by one-twentieth its bulk of water, the skin may be divided along the course of the streak with a sharp scalpel, quite down to the subcutaneous tissue, without pain. Abscesses, whitloes, and buboes may be opened in this way with great advantage.—*Atlanta Med. and Surg. Jour.*

CHLORAL HYDRATE.

In some remarks on the therapeutics of chloral which Dr. Liebreich has recently published in the *Gazette Hebdomadaire,* he records his observation that its administration in cases of hysteria often increases and fixes the condition of excitement. This he considers an inexplicable phenomenon. Dr. Liebreich goes on to say that it should never be given in substance, nor in solution stronger than twenty parts to one hundred. It may be mixed in beer, wine, beef-tea, and mucilage. He prefers syrup of orange peel. The so-called syrups of chloral hydrate are solutions in glycerine with sugar. Thin gruel may be employed as a vehicle for an enema. In certain convulsive attacks it may be applied hypodermically. The cigarettes which have been proposed are inadmissible. The best dose for adults is from 30 to 45 grains. Habitual use does not require increase of dose. "Long-continued use does not impair the general health. I know persons who have taken it almost daily since its introduction in the same dose and with the same success."

Dentistry.

LECTURE BY THE AUTOCRAT OF THE BREAKFAST-TABLE.

DR. OLIVER WENDELL HOLMES, of Boston, gave a long and very interesting address before the Dental Department of Harvard University, and it is worth while to quote a few paragraphs from the report of it:—

"The picture of old age drawn in Ecclesiastes is wonderfully impressive, all the more so in consequence of the obscurity of some of its images. But we all know what the preacher means when he speaks of the drawing nigh of the years when we shall say there is no pleasure in them, and of the day when the grinders shall cease because they are few, and those that look out of the window shall be darkened. There were no dentists in those days to rejuvenate the old man with a third dentition. There were no opticians to supply his vision with the second eyes of old age. The aged people seem to have been in a most forlorn condition at a time when the men of to-day not rarely have a good deal of vitality left, and enjoy life and help to make others enjoy it. To us who remember the late Josiah Quincy and Dr. James Jackson, long after they were eighty years old, who knew something by report of Lord Lyndhurst and Lord Brougham in their later years, it seems strange to hear Barzillai say to King David, 'I am this day four score years old: and can I discern between good and evil? can thy servant taste what I eat or what I drink? can I hear the voice of singing men and singing women?'

"But what would old age be to a great number of persons without the aid of the dentist and the optician? The worn-out labouring man, unused to books, and with limited capacity for social intercourse, may get along well enough, perhaps, with his pipe and his seat in the sunshine or by the fireside. Father Abraham may not have felt the need of spectacles; he went to bed early, no doubt; there was no daily newspaper to read, and he did not shave. But what would become of the scholar, or of persons of any cultivation in our days, who at fifty or sixty should find themselves cut off from reading, and not improbably rendered unrepresentable, or, at least, miserably uncomfortable in society in consequence of imperfect articulation? The care of the eyes is therefore recognised as one of the most important specialties in medicine, and the study of ophthalmology has engaged some of the most distinguished professional talent in this country as in Europe. The province of dentistry is only second in importance to the other domain of medical science and art, and rivals it in the intelligence and activity of those who teach and practise it. In one respect it is of greater public interest than the other branch; most children's and young persons' teeth require positive attention, whereas their eyes in the great majority of cases take tolerable care of themselves. I think there are twelve times as many dentists in this city as there are oculists. If every one had twenty eyes in the earlier part of his life, and thirty-two when full grown, the number of oculists and dentists might be more equal.

"While the scientific basis of dental art has made great advances in modern days, the practice of the art itself has undergone the most wonderful transformation.

"What a change since the time when teeth were allowed to decay as if they were not worth the gold it took to fill them. What a change from the time of those ghastly *rateliers,* as the French call them, carved in ivory, and supported by springs that creaked with every motion of the jaws, like the thoroughbrace of an old-fashioned stage-coach. Could anything be less inviting to social intercourse, could anything be more appalling to tender infancy than the sight of those dancing sets of artificial teeth, looking as if they were ready to jump from their owner's mouths and fasten upon one, as they used to say a turtle's head would do after it was cut off? Mr. Greenwood, of New York, you may remember, carved a set for the Father of his Country, and one can hardly fail to see how the flattened and compressed lips were in a perpetual struggle with those loose-fitting arches and rebellious spirals. Yet this was considered a master-piece of dental workmanship, and I have no doubt that pilgrimages have been made to Mount Vernon by artificers in that line of business who left with a tear in one eye at the sight of Washington's majestic countenance, and a twinkle of satisfaction in the other at the triumph achieved by Mr. Greenwood.

"Contrast this state of things with the manufacture of artificial mineral teeth as carried on in this country, where it has been brought to its greatest perfection. More than ten years ago, there were nine factories engaged in their fabrication, and more than two million teeth were made in a year. To-day I suppose they must be made and sold by the bushel like the cereal grains, and if the great factories required elevators to handle their products it would hardly surprise us. Compare the delicately tinted, exquisitely shaped porcelain incisors with those frightful ivory palisades that used to play up and down like a portcullis in a manner to terrify all beholders. In fact, the perfection of artificial teeth is carried almost too far. They have come to be for the inside of the head what the wig was for its outside in the days of our ancestors. It was so much more convenient to have a head of hair that one could whisk on and off in a moment, one that never grew grey, one that was just the shade the owner fancied, that was always in curl, that could be laid aside in hot weather to let the cool breeze play over the naked scalp, a luxury which Adam never knew in Paradise, and coming about as near to 'sitting in one's bones' as is practicable while we are in the flesh; all this was so much more convenient and comfortable than the arrangement provided by nature, that the wig reigned undisputed for generations, and will, not very improbably, return to bless mankind before our children's children are bald and grey. So with the artificial teeth of this dental millennium in which it is our good fortune to live. They are comely, they never ache, they are contented with their situation and keep their place, which is more than we can say of most of our living servants; they undergo no changes in the mouth, they admit of the nicest personal proprieties, they serve perfectly for articulation, and, though one can hardly crack a peach-stone with them, as some can with their native molars, or use them for biting off the heads of iron nails, as used to be told of Ethan Allen, they can do good service in the respectable and responsible duties of mastication. The consequence of all this is that people are only too ready to have their natural teeth shelled from their gums like so many grains of Indian corn from the cob, and

a completo mouthful of artificial make inserted in their place. Your miss your friend for a littlo time—he is in his chamber with his jaws tied up, perusing Zimmermann on Solitude for a few days—suffering from toothache is the figurativo language in which his condition is announced. When he returns to society he has recovered his youth, like Æson in the hands of Medea, and his smile is a glittering welcome, a mineral benediction which it is a joy for ever to be blest with.

Think again what that preliminary process of edentation would have been in the days when the rustic patient complained that he had to pay as much as his neighbour who had been dragged three times round the room before the tooth came out. There never was a claw on bird or beast that was the cause of such anguish of apprehension, such howls of agony as that diabolical instrument, looking like a vulture's talon, but known by the name of "the key." It was a key indeed; it may have opened the door of heaven to the sufferer in due time, but while the bolt was turning the victim thought he was in that other place, where the man must be who invented the instrument of torture. *Now* a patient comes in, takes a few whiffs of an anæsthetic, has a dozen or more teeth submitted to the embrace of the gentlemanly forceps, which lifts them from their sockets as one takes out the pegs of a solitaire-board; say rather, as a father lifts his first-born infant; comes to; stares about him; asks when they are going to begin; is told that it is all over; bursts into tears of hysteric gratitude, kisses the smiling dentist, wants to hug all mankind and make the human race happy at once, sobers down presently, ties up his face, and takes to retirement and Zimmermann for a season, as before mentioned. . . . .

"The use of the mallet in filling teeth, every blow of which instrument is a fractional knock on the head to the patient equal to about one-hundredth of that which a slayer of cattle gives to a full-grown ox to finish him, but which being taken in divided doses allows the sufferer to escape with life. The use of the mallet, automatic or other, far from agreeable as it is, is considered a vast accession to the art of dentistry. 'Every man must be anvil or sledge,' says Goethe, and it is quite plain that our friends, the dentists, have settled it so far as they and we are concerned."

ANCIENT AND MODERN DENTISTRY.

Our artist (who has not read Dr. Wendell Holmes's speech) has sent us his own graphic ideas of past and present dentistry, which we have much pleasure in submitting to our readers.

SURGEONS' ATTAINMENTS.

IT is interesting to know what is regarded as the standard of professional acquirements which a member of the College of Surgeons must exhibit. We therefore reprint from the *British Medical Journal* the questions submitted to the candidates in the written portion of the Examination at a certain final examination. *Surgery.* 1. How would you distinguish, surgically, chronic induration of the breast from scirrhus? What are the microscopic appearances by which each is characterised? 2. Describe the operation of excision of the elbow joint; and state under what circumstances it may be required? 3. What treatment should be adopted in a case of incised wound of the cornea with protrusion of the iris? Mention the consequences which may ensue, and the proper mode of dealing with them. 4. What are the causes which may impede the union of a fracture of a long bone? Describe the modes of treatment which might be resorted to in order to promote the cure of an ununited fracture. 5. Describe deligation of the right carotid artery in the first part of its course; giving the exact relations of the parts concerned in the operation. 6. Mention the different forms of nævus; and the appropriate modes of treatment. *Medicine.* 1. Describe a case of paralysis of the facial nerve, and mention the causes upon which it may depend, and the treatment you would adopt for its relief? 2. What are the circumstances which would induce you to have recourse to thoracentesis in a case of effusion in the pleural sac? State how you would perform the operation, and the changes that would follow it, supposing the case to terminate in cure. 3. Write prescriptions in Latin in full, and the directions in English, for a diuretic mixture and a purgative powder; and give the compositions and doses of the following preparations in the *British Pharmacopœia*:—Pulvis jalapæ compositus; Mistura ferri composita; Tinctura camphoræ composita; Liquor morphiæ hydrochloratis.—The following questions in Anatomy and Physiology were put at the recent primary examination. 1. Describe the occipital bone, noticing (1) its relations and mode of connexion with other bones; (2) the foramina existing in it, or into whose formation it enters, naming, but not farther describing, the parts passing through them; (3) the muscles attached to it, and their points of attachment. Then give its mode of development and ossification. 2. How much food, solid and liquid, is required daily by a man under ordinary circumstances? Mention the principal causes which determine the quantity and quality of food necessary to maintain health. How do you explain the operation of these causes? Write out a diet-scale for a man in active work. 3. Describe the structure and functions of the soft palate, including the anatomy of the muscles connected with it, and the arteries and nerves supplying it. 4. What parts are brought into view on the removal of the deltoid muscle? 5. Give the origin, course, connexions, and distribution of the portio dura. 5. State the chemical composition and the characters of glycogen; state where it is principally found; give the tests by which it is recognised, and a procedure by which it may be procured in an isolated state.

CHEMICAL MANUFACTURE.

IMPORTANT REPORT.

AT the last meeting of the Newton Heath Local Board of Health, it was ordered that a report which had been procured from Professor Roscoe, of Owen's College, Manchester, on the subject of chemical nuisances, should be published; and from this report we glean sundry items of interest to the chemical trade generally. All the principal chemical works in the district of Newton Heath are reported upon; and firstly we are informed that at the works of Mr. Peter Spence, the manufacture of ammonia, alum from burnt shale, sulphuric acid, and ammonia liquor, is the only one carried on. From the manufacture of sulphuric acid it is stated, that a certain amount of escape or acid fumes is inevitable, but under ordinary circumstances this manufacture can be carried on without damage or annoyance to the neighbourhood. Professor Roscoe also states that he has come to the conclusion that the total quantity of sulphur going up the chimney of an alkali

works as sulphurous acid gas, ought not, on an average, to exceed 0·25 grain per cubic foot of air. He has made twelve determinations of the sulphur going up Mr. Spence's tall chimney, the results being as follows:—

Date, 1871.	
May 4	1·3 grain of sulphur per cubic foot of air.
May 9	2·1 grains of sulphur per cubic foot of air.
May 15. No. 1	1·2 grain of sulphur per cubic foot of air.
May 15. No. 2	1·2 grain of sulphur per cubic foot of air.
May 18	0·7 grain of sulphur per cubic foot of air.
May 29	1·0 grain of sulphur per cubic foot of air.
June 27	0·5 grain of sulphur per cubic foot of air.
July 3	0·32 grain of sulphur per cubic foot of air.
July 8	0·40 grain of sulphur per cubic foot of air.
Nov. 28. No. 1	0·11 grain of sulphur per cubic foot of air.
Nov. 28. No. 2	0·8 grain of sulphur per cubic foot of air.

Relative also to the works of Mr. Spence, it is stated that he is now in the act of completely altering his mode of manufacturing alum, which will diminish the amount of sulphuretted hydrogen evolved in the mixing of the acid with the gas liquor. The next works reported upon are those of Messrs. J. A. Bouck and Co., their principal products being, sulphuric acid, sulphate of copper, refined brimstone, nitrate of lead, nitric acid, rectified oil of vitriol, and tar-products. Mr. Bouck's chief manufacture, however, has been tar distilling, a process which cannot be carried on without a certain amount of smell and fumes, but (says Professor Roscoe) great care and forethought have been displayed by Mr. Bouck in the arrangement and carrying out of this part of the business. The next report is with respect to Mr. John Marsden's works, whose only process carried on which can affect the atmosphere is the boiling of oil, and especially the manufacture of "black japan." This latter product is now made very seldom, but it emits a most unpleasant odour. Mr. Marsden, however, has done his utmost to avoid every cause of annoyance to his neighbours, manufacturing as little of this article as possible. The chemical works of Mr. J. M. Beckett produce nitrate of iron liquor in some quantity. This product is made by oxidizing copperas with nitric acid, and the red nitrous fumes which come off in the operation were, formerly, generally sent straight up the chimney, causing much annoyance. Messrs. Beckett, however, have adopted a plan of condensing these fumes by sending them through a series of Woulff's bottles containing water; and in addition to this they place milk of lime in the last two bottles, to effect the complete absorption of the acid vapours. Other works reported upon are, those of Messrs. Goadsby and Co.; Messrs. Vickers and Son, sulphuric acid makers, artificial manure manufacturers, bone boilers, and glue makers; Messrs. H. W. Pochin and Co., manufacturers of sulphuric-acid and aluminous cake; Messrs. Thomas Metcalf and Co., manufacturers of sulphuric acid, nitric acid, iron liquor, tar and ammonia distillation; Messrs. Kenyon, manufacturers of muriate and nitrate of iron, oxymuriate of tin, and artificial manures; other chemical works also receiving some attention.

The chief sources of annoyance arising from chemical manufacture are:—(1) the escape of red nitrous fumes, which ought never to be allowed; (2) the escape of an excessive quantity of sulphurous acid from sulphur of pyrites burning, or from the leaden chambers, which ought to be regulated by inspection, and the manufacturers restricted in the amount sent out; (3) the escape of sulphuretted hydrogen from the alum and tar works, which, in the case of the alum works, can be, and is as a rule entirely removed, and in the tar works may be obviated by the adoption of improved methods of distillation; (4) the escape of hydrochloric acid gas from saltcake making, which suggested improvements can remedy; (5) the smell from pitch casting, which cannot be altogether got rid of, but which can be avoided to a certain extent by care in the working; and (6) the smell from oil boiling and japan making, manure making, bone grinding, horse boiling, etc. Still, considered on the whole, it is gratifying to find that Professor Roscoe is able to give so satisfactory a report upon the present condition of chemical manufacture.

Mr. G. C. Boor, wholesale druggist, of Artillery-lane, was last month elected to the Court of Common Council for the Ward of Bishopsgate, a majority of nine-tenths of the wardmote voting in his favour.

PATENTS.

[The following list has been compiled expressly for the Chemist and Druggist by L. de Fontainemoreau, Patent Agent, 4 South-street, Finsbury, London; 10, Rue de Fidélité, Paris; and 33, Rue de Minimes, Brussels.]

Provisional Protection for six months has been granted for the following:—

3102. J. Hargreaves, of Widnes, Lancaster. Improvements in treating dilute chlorine, to separate impurities therefrom. Dated 25th November, 1871.

174. H. A. Bonneville, of Paris. A new and improved means for securing corks or substitutes for corks in the mouths of bottles and such like vessels, whether earthenware, stoneware, or glass. Dated 19th January, 1872.

630. W. Hamer, of Northwich, Chester. Improvements in apparatus employed in the manufacture of salt. Dated 29th February, 1872.

694. J. C. Lee, of Littleborough, Lancaster. Improvements in processes for recovering oil and other useful matters from soap suds or scourings, and from other waste waters, resulting from manufacturing processes, applicable in part to the treatment of other matters. Dated 7th March, 1872.

715. G. Garneri, of Gracechurch-street. A new system or process for the production and decomposition of anhydrous chlorides, and apparatus for those purposes. Dated 8th March, 1871.

790. R. A. Robertson, of the Victoria Docks. Improvements in evaporating liquids, and in the apparatus to be employed therein. Dated 15th March, 1872.

812. E. Gihou, L. Dusart, and C. Bardy, all of Paris. An improved process for converting starch and other feculent and cellulose substances into saccharine matter or gum. Dated 18th March, 1872.

835. N. Prada, of New Bridge-street. Improvements in preserving animal substances, and in agents for the purpose. Dated 19th March, 1872.

837. R. Monteith, of Carstairs, Lanark. An improved process for preserving animal and vegetable substances. Dated 19th March, 1872.

844. J. D. H. T. Decamps, of Paris. An improved suspensory apparatus for raising and supporting the sick or wounded and others. Dated 20th March, 1872.

888. W. Darlow, of North Woolwich-road, Essex. Improvements in portable magnets for curative and other purposes. Dated 23rd March, 1872.

914. J. H. Johnson, of London. Improvements in ice-cream freezers. Dated March 26th, 1872.

926. A. C. Henderson, of London. Improvements in the distillation and filtration of fecal solid and liquid matters direct from privies for the manufacture of sulphate of ammonia, together with the apparatus therefor; the said process being equally applicable to the distillation and filtration of liquids of all kinds. Dated 27th March, 1872.

927. J. S. Joseph, of Ruabon, Denbigh. Improvements in the preparation and treatment of oxides of iron for the manufacture of paint and other useful purposes. Dated 27th March, 1872.

938. A. Munro, of Kensington. Improvements in the extraction of oil and other hydrocarbons from bituminous substances, and for the production of coke and charcoal, and for the means and apparatus employed therefor. Dated 30th March, 1872.

943. A. Beveridge, of Leith, Edinburgh. Improvements in preparing, cleansing, and refining animal fats, and in the means and apparatus employed therefor. Dated 30th March, 1872.

944. D. Camphell, of Quality-court, Chancery-lane. An improved process for the treatment of sewage, and the production of manures therefrom. Dated 30th March, 1872.

954. V. Caratti, of Brixton, and S. K. Church, of Fenchurch-street. Improvements in heating and in generating hydrogen for that purpose. Dated 30th March, 1872.

955. W. W. Symington, of Halstead, Essex. Apparatus for measuring the flow of sewage and regulating the flow of liquid mixtures used in the purification and deodorisation of such sewage, which apparatus is also applicable to other similar purposes. Dated 30th March, 1872.

958. C. D. Abel, of London. An improved process for the preparation of acid phosphate or superphosphate of lime. Dated 1st April, 1872.

983. J. F. M. Rigod, of Paris. An improved apparatus for carburetting air. Dated 3rd April, 1872.

1047. W. E Godge, of London. Improvements in feeding bottles. Dated 6th April, 1872.

1051. J. H. Johnson, of London. Improvements in the treatment of animal and vegetable substances. Dated 6th April, 1872.

1054. E. Sonstadt, of Ramsey, Isle of Man. Improvements in the manufacture of iodide of potassium. Dated 10th April, 1872.

Letters Patent have been issued for the following:—

2501. H. Stapfer, of Manchester. Improvements in the filtration or separation of mineral or other oil from oleaginous matter, or from matter or compounds containing oil, and in apparatus therefor applicable also to the filtration of some other matters. Dated 2nd October, 1871.

2503. T. Waller, of Fish-street-hill. Improved arrangements for the supply of fresh hot or cold air, or mixed hot and cold air in infirmaries, hospitals, and other buildings. Dated 2nd October, 1871.

2726. W. Leatham, of Leeds. Improvements in ambulance carriages and other vehicles for the removal of the sick or wounded, being also applicable for field hospitals and other purposes. Dated 14th October, 1871.

2745. R. Pinknoy, of Bread-street-hill. Improvements in the production of colours from aniline in dyeing and printing. Dated 16th October, 1871.

2763. W. Crookes, of London. An improved disinfectant and deodorlser. Dated 18th October, 1871.
2823. G. A. and T. C. Vivleu, both of Honfleur, France. A novel chemical composition for the preservation of wood, metal, and other substances. Dated 23rd October, 1871.
2868. W. and W. H. Gossage, both of Widnes, Lancaster. Certain improvements in the manufacture of sulphate of soda by the decomposition of chloride of sodium, and of sulphate of potassa by the decomposition of chloride of potassium. Dated 25th October, 1871.
3043. J. H. Johnson, of London. Improvements in solidifying petroleum, schist, and other oils, and their volatile essences employed for illumiuatiug purposes, and in the purification and liquefaction of such solidified oils and essences. Dated 10th November, 1871.
3178. J. H. Johnson, of London. Improvements in artificial dentures, and in bases for the same. Dated 23rd November, 1871.
3298. R. Booth, of Manchester. Improvements in apparatus employed in the manufacture of British gum, and other artificial gums. Dated 7th December, 1871.
3500. C. Binks, of Westminster. Improvements in treating a certain residual matter left in manufacturing aniline dye, for the manufacture therefrom of valuable products. Dated 28th Dec., 1871.
37. W. E. Newton, of London. Improvements in preserving edible animal and vegetable substances. Dated 4th January, 1872.
394. F. Taylor, of Manchester. Improvements in the construction of bedsteads for invalids. Dated 7th February, 1872.
448. S. Fulda, of Bow. Improvements in the treating of impure or discoloured waters, for the purpose of clarifying the same, and in the employment of the refuse for agricultural purposes. Dated 13th February, 1872.
602. W. Weldon, of Putney. Improvements in treatiug and applying dilute chlorine. Dated 26th February, 1872.

Specifications published during the mouth:—

Postage 1d. each extra.

1871.

2057. E. J. W. Parnacott. Solidifying oils, and manufacturing floor cloth, &c. 10d.
2086. R. Scott, treating mineral and other oils. 2s.
2113. T. C. Pearson. Tilting casks or barrels. 4d.
2123. J. Young. Treating hydrocarbon oils. 8d.
2134. J. Andersou. Reducing oxides and obtaining iron, sodium, &c. 10d.
2135. T. Roberts. Apparatus for filtering liquids. 1s. 2d.
2140. J. I. Lupton. Treating sewage. 4d.
2169. W. Weldon. Recovering sulphur in manufacturing soda and potash. 4d.
2170. W. Weldon. Chloriue. 4d.
2200. R. C. Moffat and another. Treating mineral and other oils. 4d.
2204. J. Salter. Trusses. 8d.
2212. H. Codd. Bottles for aërated liquids, &c. 10d.
2215. J. Shore. Tapping and venting casks, barrels, &c. 8d.
2228. F. A. Paget and another. Abstracting heat. 6d.
2231. T. J. Smith. Producing ammouia. 4d.
2232. T. J. Smith. Producing chlorine, &c. 4d.
2240. W. R. Lake. Bed for taking injections. 8d.
2243. H. Y. D. Scott. Treating Sewage. 1s.
2260. L. L. A. E. P. de la Peyrouse. Treating and applying fatty matters. 6d.
2262. W. B. Robiuson. Manufacture of willow chip or pasteboard boxes. 2s. 4d.
2267. J. Townsend. Treating and obtaining products from phosphates, &c. 4d.
2269. E. T. H. Vaughan. Manufacture of stannate of soda, &c. 4d.
2295. J. T. Cocking. Plastic material for splints, &c. 4d.
2308. J. K. Leather. Bleaching powder. 10d.
2311. A. Ford. Treating linseed, &c. 4d.
2324. F. Coles. Freezing mixture. 4d.
2329. J. Hargreaves and another. Manufacture of chlorine. 4d.
2353. J. T. Cocking. Splints. 4d.
2374. J. Mactear. Utilising bye products of soda, &c. 4d.
2376. W. C. Street. Stopper for bottles, &c. 4d.
2384. T. Rowan. Utilizing alkali waste, &c. 4d.
2389. W. Weldon. Manufacture of chlorate of potash, &c. 4d.
2394. M. Mirfield and another. Treating saponaceous liquors. 4d.
2438. W. Prosser. Conducting and distributing fluids. 4d.
3022. T. Hyatt. Treating and preparing chemical compounds. 4d.
3518. B. Tanner. Phosphates of soda, &c. 4d.

1872.

148. W. R. Lake. Bag for guano, phosphates, and ores. 4d.

THE PHARMACEUTICAL DINNER,
May 14, 1872.

LESS than a fortnight ago an idea occeured to some brilliant pharmaceutical brain that the congregation of so many pharmacists in the metropolis immediately before the annual meeting of the Society would be a capital opportunity for the enjoyment of a few social hours in each other's company With a heartiness which was worthy of the occasion, the notion was quickly moulded into shape, and presented to the entire body. Like the beacon fires in Macaulay's famous ballad this idea flew from north to south and from east to west, and roused the gallant squires of the pestle, if we may still continue our simile, "in many an ancient hall." The consequence was that last eveningrather more than two hundred pharmacists invaded the lovely grounds of the Sydenham Palace, passed heedlessly by the treasures of art,the attractions of nature, and the extinct animals which spread out their temptations before them, and assembled in the spacious and handsome saloon, where hundreds of other extinct animals tremblingly awaited their approach. Poor animals; they soon became more extinct than ever, and when they and their glory had departed, the business of the reporters began.

The President of the Society, Mr. A. F. Haselden, occupied the chair, and in right loyal sentenees proposed the "Health of Her Majesty the Queen, the Prince and Princess of Wales, and the rest of the Royal Family." The mention of our lovely princess won the first hearty and universal cheer of the evening, but such cheers followed afterwards, in such quick succession, that this reporter may not stay to name them all. This toast being duly honoured, Mr. Hills proposed "The Army, Navy, and Reserve Forces." Mr. Starkie was the gallant warrior deputed to reply. Then Mr. Brown, of Manchester, proposed "The Medical Profession," and in fluent sentences pleaded for the approach of the day which the Pharmaceutical Society had done so much to hasten, when the general practitioner who dispensed his own medicines should be universally replaced by the educated physician, who should confidently rely on the educated pharmacist's skill. England had good reason to be proud of her medical profession. To the self-denying earnest zeal of one of its members was greatly due the life of one whom all the nation loved; but every hour that same self-denying earnest zeal was manifested, though no honours might await, nor in some cases pecuniary reward be forthcoming to the labourer. Dr. Arthur Leared responded. Next, Dr. Headlam Greenhow proposed the toast of the "Pharmaceutical Society of Great Britain." He testified to the excellent judgment and taste with which that Society fulfilled its duties, "almost as perfectly," he said, "as it was possible that any society could fulfil them." And he looked for a great future for the Society, for as the principle of division of labour extended, he was sure the art of prescribing medicines must become more separate from the art of preparing them. Mr. Mackay replied, and said that the Society had grown from a mere bantling in 1841, when a few gentlemen associated with the special object of raising pharmacy to a higher level. He urged all present on an occasion like this to remember Jacob Bell. He contrasted the past and present condition of pharmacy, and then referred to the Juries Bill, which had passe . a second reading the previous night, and which exempted all chemists and druggists in England and Wales from service on juries, but which, unfortunately, did not extend to Scotland. This he feared was owing to the essentially natural modesty of his countrymen. The Pharmaceutical Society had done much to edueate the body, and it had brought together the assembly that night, and in these respects, if in no other, it had done well, and was worthy of honour, for he might quote the poet's words—

> "Behold how good a thing it is,
> And how becoming well,
> Together such as brethren are
> In unity to dwell."

Dr. De Vrij, of the Hague, proposed "The British Pharmaceutical Conference" in complimentary terms, and Mr. Brady, the president, replied. He feared that lately pharmaceutical research had been somewhat neglected for pharmaceutical politics, but he hoped the time had now arrived to urge on the former again. Mr. Schacht then proposed the "School of Pharmacy," and having contrasted the education of this day with that of forty years ago, he coupled the toast with the name of Dr. Redwood. The worthy Professor replied, and this ended the formal proceedings. The health of the President was, however, given, and heartily drunk, and afterwards that of the honorary secretary (Mr. M. Carteighe), who had so energetically and so successfully arranged this dinner, was toasted in spirit if not in fact.

Besides those we have named, the company included Dr. Langdon Down, Mr. Ernest Hart, and most of the leading pharmacists of the day, and the *réunion* was perhaps the most brilliant and successful which it has ever been our lot to record in reporting the annals of pharmacy.

The band of the Grenadier Guards was present, and played a selection of fine music during the evening.

THE CHEMIST AND DRUGGIST

COLONIAL BUILDINGS, CANNON-ST., LONDON, E.C.

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THE PHARMACEUTICAL SOCIETY'S REPORT.

A WELL-written report, indicating good and useful work, makes its appearance from Bloomsbury-square, and will be submitted to the members at the Pharmaceutical meeting this day. The funds are flourishing, the Society is respected, and the Council is, no doubt, just now fairly in harmony with the whole trade. In making a running commentary on a few of the paragraphs, our object is rather to draw attention to, than to criticise the report.

The balance-sheet stands first, and presents some points of interest. The income of the Society is increasing, and last year reached a total of £8,863 2s. (excluding balances in hand with which the year opened). A thousand pounds have been invested in Government securities during the year, and a balance of over £750 was in the treasurer's hands at the end of the twelvemonth, and therefore it is evident that the prosperity of the Society is at present the chief cause for anxiety. The disposal of the surplus will probably become the most pressing question for the members and Council to interest themselves in. The items of the *Journal* account are kept carefully secret, and only the balance of £164 9s. 7d. *loss* is admitted into the published statement. Against this, however, might be placed at least a portion of the £3,637 14s. 6d. received as annual subscriptions, a great part of which is practically paid for the supply of the journal. The laboratory cost £956 6s. 6d., which figure includes no item for rent, and the receipts on that account only reached £753 16s. 4d. The lectures show a still worse result; the cost being £627 18s. 1d., and the receipts amounting to only £189. These figures demand the serious attention of those who imagine vast schemes of scattering pharmaceutical education broad-cast over the empire. It gives some notion of the amount of work done in the laboratory to note that not less than £288 7s. 6d. was spent in "chemicals, &c." The Register seems to be getting a more popular work, as its account has now turned the corner of success. The cost of the publication of the 1871 issue was £178 12s. 4d., while the sales amounted to £179 7s. 6d., leaving a profit of 15s. 2d. to the Society's funds. The *conversazione* last year swallowed up £196 11s. 4d., the grants to provincial associations £48 8s., the Boards of Examiners £869 16s. 10d., the country members of Council were con-

veyed forwards and backwards to London for £319 12s. 6d., and the whole of them were refreshed during the year for £17 10s. 6d. Law costs came to £176 2s. 3d., Scotland was supported for the modest grant of £100, and rent, salaries, and such-like matters make up the rest of the statement. The auditors alone can judge whether financial ability or luck, or both, has produced such a satisfactory balance-sheet. We pass by the Benevolent Fund account, which we are glad to see is flourishing, and come to the report proper. A new catalogue is announced to be in preparation for the library, and it is very much wanted; and we are told that alterations have been made in the museum, new cases having been added, &c. We may suggest that a few labels might be invested in with advantage, as many of the objects in the chemical museum are liable to misconception. The revision of the Register is referred to, and it is announced that a classified Register according to towns is in course of preparation. "Immediate steps" have been taken by the Council to secure exemption from service on juries for all registered chemists. Diplomatic secrets, however, are not revealed. The late Council is evidently not unaware of the difficulties that lie in the way of any grand universal education scheme. Any such scheme should be carried out "equitably" and "systematically." "The claims of small towns should be considered as well as those of large ones; and indeed at first sight the larger would seem to require help less than the smaller." This obvious consideration we have ourselves expressed, and we think it is worth the attention of some of the provincial educators. The results of the examinations are interesting, and we here reproduce them:—

	Presented themselves.	Passed.
Major	70	50
Minor	371	234
Modified	190	123
Preliminary	1163	766

A paragraph respecting the admission of an official reporter to the Council meetings, seems to have been inserted for the express purpose of inviting discussion. For our own part, we decline to repeat unanswerable arguments. At the close of the report, the Council goes a little out of its way to congratulate the British Pharmaceutical Conference "on its steady increase in favour and importance;" rather late in the day, and illustrating vividly the wise observation, "men shall praise thee when thou doest well for thyself.' The final paragraph of the report is partly sublime and partly facetious in its cool assumption of credit. We quote the sentence to which this description refers, without further comment.

"The emphatic condemnation of compulsory "Poison Regulations" by a very large majority of the trade, and the active steps taken by your Council and others to give weight and effect to the voice of the country in reference thereto, produced the desired result, and induced the Government to withdraw their bill for imposing upon chemists and druggists further restrictions in the keeping and sale of poisons."

As we said, the most important feature of the report is the fact that a surplus of nearly £2000 is the result of a year's transactions. The question must recur as to the best method of spending so much money, to do the most good with it. But, however spent, let care be taken not to pauperise the spirit of pharmaceutical students.

CAUTION TO TIPPLERS.—A man named John Adams died at Maryport, on the 9th inst., from the effects of poison, which he had drunk the previous day. The deceased was removing furniture for a chemist in the town, and observing a bottle which he took to be whiskey, or some such beverage, amongst the packages, drank some of the contents, which turned out to be some composition for cleaning furniture, and died in less than twenty-four hours in great agony.

DISPENSING CHARGES.

WE published in the course of last year a series of reports on the condition of pharmacy in many of the countries of Europe. The conclusion indicated by those papers, and which we more than once pointed out, was certainly one not discouraging to the chemists and druggists of Great Britain. This month we print an abstract of Mr. Greenish's sketch of "Pharmacy in Austria," which was read at the last Pharmaceutical meeting; and the reader who will turn to it will be much interested in the description of pharmaceutical affairs in the Austrian empire, which pleasingly supplements the information which our German correspondent has already given us. Mr. Greenish is one of those who take a rather high view of pharmacy, and neither he nor his audience would have been likely to show a partiality for the home system out of any merely patriotic notions. They would rather have been prone to pick holes in it, and exalt the continental practice unduly. But evidently the lecturer, and those who took part in the discussion that followed, were convinced that however worthy of admiration the German pharmacists may be as scientific men, and however certain their system may be to produce such, the advantages in a scientific sense do not balance the irksomeness in a commercial respect of the very strict legislation which is the foundation of the pharmaceutical excellence of Germany. The pharmacists of this country are pretty generally satisfied with the legislation which they have obtained; and though they have already found that, having associated with the lion at all, they must be continually "in an attitude of watchfulness" for any change in his humour towards them, they need hardly fear that Her Majesty's Ministers will ever take upon themselves such an arduous task as to endeavour to bring pharmacy in England so completely under Government control as it is both in North and South Germany. Her Majesty's Ministers would find very little time for anything else, if they once undertook the government of the thirteen thousand pharmacists of Great Britain.

Though we think, however, that the free-trade system, as we possess it, is the one most conducive to the strength and health and energy of pharmacy and pharmacists, we are nevertheless bound to recognise that in the patient study and thoroughness of acquirements which distinguishes the German, in the pharmaceutical skill of the French, and in the keen and untiring inquisitiveness which has cultivated such accomplished pharmacists in America, there are business virtues which are most worthy of our emulation and imitation. This we say in passing; and we hope the trade here will earnestly aim to help itself liberally from the examples of foreign *confrères*. But pharmaceutical progress is not the only thing we have to consider; most of us want to make a living also; some of us would like to gain a fortune; and it is worth while occasionally to consider what are our chances in these respects, and how they are affected by outside circumstances.

It is an unquestionable fact—and a very serious one, too—that in all departments of industry, and consequently in nearly all the supplies which necessity or luxury demands, there is a marked increase in the cost of production. Preying as all of us do one on the other, to our mutual advantage, it must be remembered that this increase of cost would be of no consequence if only the advance could be fairly adjusted all round. Time will be sure to regulate this, and will in the end most probably take care of all of us. Meanwhile, however, it is advisable that we should do our best to take care of ourselves. And first of all it is especially important that we should clearly recognise the

fact that money is getting perceptibly cheaper. A pound is not now worth so much as it was when Sir Robert Peel first propounded the inquiry as to what it was, and it therefore follows that unless we have found some way of augmenting our incomes since then, we are relatively poorer, if nominally as rich, as in those days. We therefore write these lines with the object of urging all chemists and druggists, in their own interest, as well as in the interest of the trade generally, to avoid the silly cutting of prices which is not unfrequent in medicine, as elsewhere.

There is not much doubt that the next generation of chemists and druggists will be richer men, as well as cleverer, than we are. The Pharmacy Act which we have gained will give them substantial benefits; and we are glad to think that this will be the case. But, nevertheless, there is no reason why we should not ourselves secure some of the early drops of the shower; and that we may do this it is only necessary that there should be a hearty understanding between us all.

It will always be impossible to establish perfect uniformity in dispensing charges. The firm that pays rent in hundreds has a fair right to expect a better class of trade, and higher rates of remuneration, than one whose expenses are perhaps little more than a tenth of the other. Every pharmacist, too, must have perfect liberty to use his discretion with regard to every case that comes before him. He may wish to lighten the cost of medicine to a poor person, or he may have other reasons for charging low, which he need by no means explain. But what we wish to impress on the trade, or rather on the few who, as we learn from time to time, seem to sell their skill too cheaply, is the difference existing between the English, and, say, the German method of charging. They charge on the basis of reckoning the value of the ingredients of a prescription; a correct commercial rule, doubtless, but one that assumes the art of dispensing to be a simply mechanical one. From our point of view, and certainly we may add from the customer's point of view also, a more satisfactory method is to charge for medicine according to the number of doses; a rule so widely deviated from, it is true, as to be hardly recognisable, but one which is the foundation of English dispensing tariffs, and one which, if it were necessary, it would be easy to show is perfectly justifiable. Let this be borne in mind, and we anticipate that a better rate of dispensing charges will be established.

Such remarks as we have made may be mere platitudes, but we do not think they are uncalled for. In view of the fact to which we have alluded, that a given amount of money will purchase less labour, and in most instances less produce, than formerly; in view of the threatening aspect which co-operative stores and other influences manifest towards some departments of our businesses; and in consideration of the insufficient remuneration for their technical skill which some chemists and druggists demand,—it is desirable sometimes to bear in mind even a platitude, in the hope that its influence may tend towards a more correct appreciation of our labour, and a somewhat better position for each and all of us.

The chemists' and druggists' assistants and apprentices of Cheltenham lately memorialised their employers for shorter hours during the summer months. The latter met, in consequence, on the 25th of April, and passed the following resolution unanimously:—"That this meeting, while desirous of shortening the hours of business, and of joining, as far as circumstances will admit, in any generally adopted arrangement, on the part of the various trades of the town, to attain that object, regrets its inability to meet the request of the assistants and apprentices, so respectfully stated in their address to the chemists of the town."

PHARMACEUTICAL FURY.

A GOOD many years ago the mind of the English pharmacist was to all outward appearance calm and imperturbable. Neither in London nor in the country was such an occurrence as a meeting of chemists and druggists so much as thought of, nor would the thought have been welcome if it had occurred. All day long our patient, laborious, and much to be honoured predecessors drudged away in silence; and when bed-time came, each one put up his shutters and hermetically sealed himself up in his own shell. Some of us sigh for the good old days when draughts were ordered by the dozen, and when five-drop doses were unknown. Modern druggists have cultivated "elegant pharmacy," and if they will but see it, it is a viper which they have warmed in their bosoms. Once the public looked for quantity, colour, and flavour in their physic; and the blacker the tint, and the viler the taste, the more cheerily the bill was paid. What have we now? Is it a triumph of chemistry that a pill-box will now contain the virtues which were then disseminated through a bushel measure? No doubt it is, but druggistry, alas! has had to pay the cost. To us as tradesmen it has been robbing Peter to pay Paul. But we have compensation, no doubt, and not the least is, surely, the social intercourse which has spread among us so rapidly during the last thirty years. The hour of change struck, and the man came. Jacob Bell was young, spirited, wealthy, and broad-minded, and to his zealous labours may be traced much of the activity of English pharmacists at this day. We write no words of fulsome praise, we merely notice the historical fact that he, perhaps more than any one man, has moulded pharmacy into the shape which it now assumes. Who would wish for the old times back again, if to get them we had to renounce our local and national associations, our conferences, our agitations, our party struggles, and, may we add the item, our journals? We hope we number but few such Tories. But it may be that our blessings have been too abundant, and that lately the evil fairies who arrange the compensatory curses have been the moving powers who have extracted pharmaceutical fury from the once unimpassioned souls of our brethren. Certain it is that the politics of our trade have been increasing in intensity for some years past, and lately it has become customary to look to the annual meetings of the Pharmaceutical Society as the opportunity for ebullition and eruption. The appetite grows for what it feeds upon, and in accordance with this law it is quite evident that there exists a smothered sort of feeling of disappointment, that notwithstanding all well-intentioned efforts, it has been impossible to provide for the meeting which takes place this day a bull fierce and lively enough to satisfy the more blood-thirsty tastes of some among us. One may turn up at the last moment, but the chances seem to be in favour of a quieter meeting than we have enjoyed for several seasons.

We have been rather too much afraid of this pharmaceutical fury. It is a sign of good health, and if kept well under control is the best antidote we can have to stagnation. Men nowadays if they be anything more than an arrangement of bones in a suit of clothes, must have something to "go for" or to "go against." The Permissive Bill, the Metric System, Home Rule in Ireland, Darwinism, and a thousand other arenas are open for brilliant tournaments, and it is worth while to take part in some of them. It is hardly conceivable that two men should really quarrel in earnest over a discussion as to whether an ancestor, fifty million times removed, had or had not a tail, or some other such question, but it is probably the fact that they do so quarrel occasionally. Their weakness, however, must not

altogether prevent our exercise, and we conceive that it is thus that we should regard our pharmaceutical fights. Readers may call to mind that in chronicling dinners, suppers, conversaziones, and réunions, generally among our fellows, editors have too frequently adopted an almost stereotyped form of congratulation respecting the cultivation of cordiality, harmony, fraternity, and suchlike. This, we think, might be discontinued. We have known each other long enough to accept, without question, the fighting ability of our opponents, and we need hardly encourage the idea that every neighbour is an insane firebrand, who may break out at any moment, and who requires watching.

Here is an example in point. In another column will be found reported a cheerful dinner at the Crystal Palace last evening. It had no political purpose whatever, but was just simply an opportunity for old friends and new ones to meet together under pleasant circumstances. Our pharmaceutical contemporary sees this clearly enough, but falls into the old habit of introducing the brotherly love business. Alluding to the dinner prospectively, and noting the fact that it immediately precedes the annual meeting, the *Pharmaceutical Journal* says—"we know no better plan of eliminating asperities from projected orations than that of giving intending speakers and voters an opportunity of becoming better acquainted," etc.

The article was worth printing in order to introduce such a sounding phrase as that of "eliminating asperities;" but it strikes us that to eliminate asperities from speeches against certain persons with whom we happen to be acquainted, is in principle very nearly equivalent to the admittedly immoral practice of throwing stones at certain other persons because we do not happen to know them. Our contemporary quoted the "old saying," that to put an Englishman in a good temper the best plan is to give him a good dinner. The old saying is physiologically incorrect. Men with empty stomachs feel no inclination to quarrel, but well-fed rascals are always troublesome. This is the experience of managers of prisons and suchlike establishments. We look for no political results from this dinner; but if it is to have any influence, we hope it will be to inspire new spirit in those who fight for the true interests of our whole body, though all may not see eye to eye.

PALATABLE COD-LIVER OIL.—At the City of London Hospital for Diseases of the Chest, Victoria Park, Dr. Thorowgood has been making trial of Fox's Palatable Cod-liver Oil, and his observations are reported as under in the *Medical Press and Circular*.

Five out-patients were selected of all ages and in various stages of phthisis who were unable to take and digest the ordinary cod-liver oil, and the following record was made of the results of experiments with the palatable oil:—

1st.—O. P., a man, æt. 30; phthisis 2nd in left lung; quite unable to take ordinary oil, and equally unable to take the palatable oil.

2nd.—J. C., girl with phthisis 2nd; cannot bear cod-liver oil on her stomach, but is able to digest Fox's oil well.

3rd.—K. C., very delicate little girl, whose mother is under treatment for phthisis, takes the palatable oil well and likes it.

4th.—E. C., a young woman who always found ordinary oil to rise on her stomach, stated that the palatable oil did not rise, and she could take it well.

5th.—L. C., a chronic case of dyspepsia with commencing phthisis, improved very decidedly on the palatable oil.

All these last four cases continued the oil as long as the supply lasted, and there could be no question of its agreeing well with them in every respect.

REVIEWS

PHYSICAL SCIENCE.*

WHAT may be exactly meant by chemical physics, how extended or how limited the expression may be, it is no part of our duty to determine. The term was chosen by the late eminent professor of chemistry at King's College, London, to designate what, as we must presume, he regarded as the necessary quantity of physical science which an intending student of chemistry should acquire before he commenced the study of chemistry proper.

But it is possible that amid our modern ramifications of investigation we are getting a wrong notion of the science of physics, a notion which is not sufficiently respectful to the grand old science itself. In ancient times, the term Physics comprehended the survey of all the vast fields of nature; it was the science of materialism as distinguished from the science of abstract truth on the one hand, represented by mathematics, and, on the other hand, from speculative philosophy, which came to be designated Metaphysics. An incalculable loss is the result, if students should be taught to look on nature as an estate parcelled out into lots to suit purchasers; so that one can enter the field of chemistry, another can confine himself to astronomy, and a third to botanical or geological investigation exclusively. It is not a loss that these should be studied separately, and that, to a moderate extent, the boundaries of each should be traced. The danger is that the superficial student should come to regard the various natural sciences as perfectly distinct, and not as "parts of a stupendous whole;" and unless he shall acquire this broader vision, we see no benefit in scientific instruction whatever. To know by rote a set of facts respecting nature's works is just as useful as the mere acquaintance with any given set of chronological dates. Just as useful, but not more so. Just as a remembrance of mere dates may be acquired without the learner knowing a particle of history, so may a pile of natural facts be gorged, and the student remain in utter ignorance of true science. It is absolutely necessary, if progress is to be made at all, that each branch of nature's works and ways should be studied separately, and to an extent exclusively. This is right; but the science of physics might still be kept to its ancient purpose; it might still be the initiation ground for the novice; the tower from whence a vast prospect spread out before him, in which the variations of scenery fell each into its proper place in the picture of creation. If the teacher would so regard it, and plan his course on the basis of that idea, he would make his instruction more truthful and more fascinating, and would very easily persuade his scholars to choose for themselves one or other of the paths which were seen leading from their standpoint into the far and sublime distance, knowing at the same time the relation and direction of the various other pathways which radiate towards the horizon.

The title of Dr. Miller's work has called forth this long preamble. We know how able a teacher was the author, and we know too that it is rather late in the day to begin to cavil at the title of his work; but as an illustration of the tendency of the highest and most learned professors to narrow the view of their students, and to confine their ideas to one subject, we quote this title of Dr. Miller's. Now chemistry, like astronomy, geology, and botany, is an outgrowth of physics, and yet in the designation "Chemical Physics," it undoubtedly treats the parent—as human scions often do also—as but subsidiary to its own importance. Let it be noted that our remarks are not levelled against a mere misnomer. The title "Chemical Physics" exactly describes Dr. Miller's book. It is the system of science teaching involved in that title to which we object, and which we think might be vastly reformed.

We have two works on Physical Science before us, which it is impossible to compare against each other, because the

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* "Elements of Chemistry." By WILLIAM ALLEN MILLER, M.D., &c. Revised by HERBERT MCLEOD, F.C.S. Part I. Chemical Physics. Fifth Edition. London: Longmans.

"Natural Philosophy for General Readers and Young Persons." Translated and edited from Ganot's "Cours Elémentaire de Physique," by E. ATKINSON, Ph.D., &c. London: Longmans.

objects of the authors in each case differs. The one is the fifth edition of the first part of Dr. Miller's "Chemistry," and is entitled as we have indicated. The other is a new work on Natural Philosophy, which is not especially intended as an introduction to any one branch of science, and therein somewhat approaches our wishes. It is a translation and adaptation of an elementary treatise by M. Ganot, whose larger work is so universally recommended. Dr. Atkinson, whose name is so honourably associated with that of M. Ganot in the *Treatise*, is also the translator of this work, and as a book of Popular Natural Philosophy, which it claims to be, we have no hesitation in describing the new production as excellent. The volume is divided into eight "books," which treat of the general properties of matter, hydrostatics, gases, acoustics, heat, light, magnetism, and electricity. In these divisions are included descriptions of the principles of the great number of inventions, such as balloons, steam engines, photographs, telegraphs, etc., which every fairly educated person should be familiar with; and the descriptions are so transparently clear and free from technicalities, and at the same time so well illustrated, that a child could comprehend them. The book is one which most boys would revel in, and which they would never lose the benefit of having read.

Miller's "Chemical Physics" is a larger work, and written in a much more scientific style. Its editor is Mr. Herbert McLeod, whose high attainments we had occasion to refer to when reviewing Sutton's 'Volumetric Analysis.' In this work, from beginning to end, the requirements of the chemical students have been kept in view, and even speculative chemical philosophy occupies a prominent position in its pages. A very mistaken idea would be conveyed if our preceding remarks should seem to indicate any suspicion that "Chemical physics" are not well taught in this work. The student of chemistry will find no book so well adapted to his wants as this one. At its conclusion he will be tolerably well prepared to enter on the facts of inorganic and organic chemistry as they are seen by modern chemists. We know no work on "Chemical physics" which better fulfils its purpose; but we take the liberty to repeat that the modern method of taking portions of physical science and treating them as auxiliaries to what are called "the" sciences, is an essentially false and unscientific mode of instruction, and we look for a day when physical science shall be a comprehensive term, and when it shall be taught to all sorts of students regardless of their after study. Superficial such instruction must be; but finite intellects will be taught how infinite is creation, and they will not fail to perceive the littleness and the superficiality of their knowledge, which will surely be worth understanding.

DR. LETHEBY ON FOOD.*

Liebig and other chemists have invested the chemistry of food with a popular interest, which sensational writers have not failed to take advantage of, and maintain to the utmost extent, by startling and ever new revelations of "death in the pot." That Dr. Letheby should have written his work without making a special feature of rare or impossible adulterations, is to our minds one of the chief recommendations of his book; the more so, as holding the position of Food Analyst for the City of London, the temptation must have presented itself rather strongly. He has made the section on Adulteration conspicuous for its meagreness; and with something like amusing pathos he comments on the emptiness of the honour which the office he holds confers. "During the eleven years that have elapsed," he says, "since the passing of the Act, there have been but fifty-seven articles supplied to me for examination, and of these twenty-six were of bad quality or were adulterated. In many cases the genuine articles were brought to me with the knowledge of the dealer, and with the evident intention of obtaining a certificate for trade purposes" (a smart idea, but we are not told whether it succeeded); "but in no case has there been any proceeding before the magistrate in accordance with the provisions of the Act." This refers to the City of London only. While admitting the importance of the subject of adulteration of food, Dr. Letheby is "bound to state that it has often been grossly exaggerated, especially by those who have had but little practical knowledge to guide them, and who have been trading on the credulity of the public."

This book is substantially the same as the course of Cantor lectures delivered by the author a few years ago before the Society of Arts. In this second edition there are incorporated many additions, prominent among which are experiences obtained from the siege of Paris. Its chief value is in its character as a contribution to social science. Dr. Letheby concludes that almost universally the dietaries of prisons are far superior to the dietaries of workhouses; while there is, too, such an absence of uniformity in the former as to furnish an inducement for the commission of crime in certain districts rather than in others. These are subjects worthy of serious attention. The various tables given, and there are many of them, are useful; but it may be doubted whether even yet our knowledge of the physiological action of food is so exact as to warrant the conclusions which superficial readers are sure to draw from these hard and fast statistics. The value or worthlessness of extracts of meats, for instance, as food, is just now in course of controversy, and it is quite easy to prove both sides by physiological reasoning. Therefore we can only admit an approximate value to these laboriously-compiled tables. But there is no question about the interest and liveliness of the general contents of Dr. Letheby's volume. The more heavy reading is continually lightened by experiences from all parts of the world, and the mass of information which has been brought together is truly surprising. We shall venture to quote one after the other two paragraphs from the work which contrast well together, and the facts of both of which are interesting. The first refers to the supply of food to the metropolis.

> At the present time over three millions of people have to be fed daily; and yet so regular is the supply, that no one considers even the possibility of its failing. On the other hand, there is no redundancy; and not only does this supply regularly reach the metropolis, but it is distributed to our very doors. About 300 tons of fish; over 4000 sheep; nearly 700 oxen; about 90 calves; 4000 pigs, including bacon and hams; not less than 5000 fowls, and other kinds of poultry; besides a million or so of oysters; and eggs innumerable, with flour enough to make nearly a million quartern loaves; and vegetables, butter, and beer in proportion, are daily brought to this city. "Imagine," as Archbishop Whateley says, "a Head Commissioner entrusted with the office of furnishing all these things regularly to the people. How would he succeed?" And yet all this goes on with the regularity and precision of a machine—without Government or even municipal interference, but simply through the magical power and unfettered action of free-trade.

The other quotation shows what it formerly needed to satisfy a real Roman swell:—

> The sums of money expended by the wealthy Romans on this meal [supper, or dinner as it would be regarded now,] were often ruinous. Vitellius is said to have spent as much as 400 sestertia (about 3228*l.* of our money) on his daily supper; and the celebrated feast to which he invited his brother Lucius cost no less than 5000 sestertia, or 50,350*l.* sterling. It consisted, according to Suetonius, of 2000 different dishes of fish, and 2000 of fowls, with other equally numerous meats. His daily food, say our classical writers, was of the most rare and exquisite nature, the deserts of Libya, the shores of Spain, the waters of the Carpathian Sea, and even the coasts and forests of Britain, were diligently searched for dainties to supply his table; and had he reigned long he would, says Josephus, have exhausted the great opulence of the Roman Empire. Ælius Verus, another of those worthies, was hardly less profuse in the extravagance of his suppers; for it is said that a single entertainment, to which only about a dozen guests were invited, cost above six million sesterces (6000 sestertia, or nearly 48,500*l.*); and we are told by historians that his whole life was wasted in eating and drinking—being spent in the voluptuous retreats of Daphne, or else at the luxurious banquets of Antioch. So profuse, indeed, was the extravagance of those times, that to entertain an emperor at a feast was to encounter almost certain financial ruin—one dish alone at the table of Heliogabalus has been known to cost about 4000*l.* of our money; no wonder, therefore, that these imperial feasts were lengthened out to hours together, and that every artifice, often revolting in the extreme, was used to prolong the pleasure of eating, or that Philoxenus should have wished that he had the throat of a crane with a delicate palate all the way down.

In the section on adulteration, we notice that the author refers to the "logwood test" as a simple one, by which small quantities may be readily discovered. This is generally considered now a test too unreliable to depend upon, and should not be put forward without some qualification. But an excellent notion of the chemistry and physiological action of the various foods will be derived from a perusal of Dr. Letheby's book, and the reader will be entertained throughout by the narration of many facts which will enliven the study.

* "On Food: its Varieties, Chemical Composition, Nutritive Value, Comparative Digestibility, Physiological Functions and Uses, Preparation, Culinary Treatment, Preservation, Adulteration, &c." By H. Letheby, M.B., M.A., Ph.D., &c. Second Edition. London: Baillière, Tindall, and Cox.

THE AMERICAN YEAR-BOOK OF PHARMACY.

THE proceedings of the American Pharmaceutical Association, which we have lately received, are as interesting as ever, and the volume recording them has grown to nearly double its size. We had the pleasure in November and December last to publish articles on the meetings at St. Louis from the pen of Mr. Henry B. Brady, the President of the British Pharmaceutical Conference, who was then present; therefore it is not necessary for us to travel through the history of that nineteenth session of the Association. But as a Year-Book of Pharmacy has of late become an institution in this country, it may not be without interest to describe the construction of the American contemporary and prototype.

The volume this year contains over 600 pages; and whether regarded as a valuable treasury of pharmaceutical information, or whether the method and skill of its preparation is considered, it is beyond praise. With all their versatility, the Americans have a rare habit of doing things thoroughly; and the report before us evidences this. The Report on Adulteration, which appears in this number of our paper, indicates how energetically honest they are when they are not *as* energetically ingenious in the discovery of short cuts to wealth.

The papers read at St. Louis are printed in this volume *in extenso;* and the discussions on them are presented in very crisp style. Several committees had between the meetings prepared special reports, and these are also published. The one on "The Progress of Pharmacy" occupies 200 pages, and is a well-digested and well-arranged collection of discoveries or notabilia in the pharmaceutical world. The Report on the Drug Market, by John McKesson, jun., is excellent, and though commercial in its tone, it is not abridged and driven up into the darkest corner, as though unfit to associate with a science so pure as pharmacy. The Committee on Legislation make a curious error in respect to the pharmacy of this country in their report; an error which is inexcusable considering the amount of space which the subject occupied in our journalistic literature of last year. Referring to our poisons regulations, they say:—

"Latterly, a bill was introduced into Parliament, entitled 'An Act to amend the Pharmacy Act of 1868,' in which all power to frame such regulations is taken from the Society and placed in the hands of the council of the Society, and ultimately the Privy Council. All regulations approved or framed by the Privy Council in pursuance of the amended section, will have the same effect as regulations prescribed in manner specified in the principal act."

Tyrant-ridden as we may be in some respects in this debilitated old country, the chemists and druggists of England did manage to defeat the Government attack last year, the success of which the American reporters so complacently seem to assume.

We quoted from the volume last month, and again in this issue, and probably shall repeat our depredations in the future.

Literary Notes.

IN the *Michigan University Medical Journal* we are pleased to find the following complimentary notice of ourselves:—

"It is noticeable that the chemical and pharmaceutical journals of Great Britain bear on their pages the evidence of a pretty rapidly increasing number of American readers. The circulation of the British medical journals in this country began earlier and has grown more slowly. The CHEMIST AND DRUGGIST of London is a spirited and practical monthly, likely to find a good share of readers on this side. It is the organ of the chemists and druggists, while the *Pharmaceutical Journal* represents the more scientific body, the Pharmaceutical Society of Great Britain; nevertheless the science of the former journal is well digested and full of usefulness."

A work of great interest and importance to students of chemistry, and to all engaged in sanitary inquiries, has been recently published by Messrs. Longmans', entitled "Air and Rain. The Beginnings of a Chemical Climatology." The author is Dr. Robert Angus Smith, F.R.S., general inspector of alkali works for Government. We have not been able to prepare our full review of this work in time for this issue, but our perusal of the volume leads us to think so highly of its value that we take the earliest opportunity of referring to it. We believe we are quite justified in asserting that no such thorough investigation into the nature and effects of pure and foul atmospheres is in existence. We shall give a more lengthy notice next month.

NOTES & QUERIES

Lex (Halifax).—It is necessary to have a petroleum licence to keep mineral naphtha. You must state the quantity you wish to keep in your application. Benzine, mineral naphtha, or any of the articles which come under the term *Petroleum*, may be kept in quantities of not more than three gallons without a licence, provided it is in bottles holding not more than a pint, securely stopped.

Mr. J. F. Lyon (Toronto).—You will be able to get the proceedings of the American Pharmaceutical Association from Professor Maisch, 145, North Tenth-street, Philadelphia, for about five dollars.

Medical Student, will feel very much obliged to any gentleman who will let him know of any chemical, drug, gas, &c., the taking of which will imitate mesmerism; or the address of any gentleman in possession of such is respectfully solicited to be in the next publication of the "CHEMIST AND DRUGGIST."

Mr. Bohler, of Nottingham, writes to inform us that the account given in the April number of the "CHEMIST AND DRUGGIST," of the accident that took place at Sheffield with the infusion of gentian, with which it was stated aconite was mixed, was not quite correct. After the people had recovered, Mr. Bohler writes, they brought the rest to me to know what it was; it was a large untrimmed root of helleborus alba; and hence the mischief would arise from the carelessness of the collectors of gentian for the trade, the gentian of commerce being collected on the Mexican and Spanish mountains, while on the same range of hills grows the *white hellebore*.

A Country Chemist, who is a manufacturer of Pig Powders, advertises poetically. His lyric thus commenceth:—

Pig's is dying, oh my eye!
Quick to O—— J——s shop you fly.

WHITE GUTTA-PERCHA.—The *Journal of Applied Chemistry* gives the following method of preparing this, for dentists' use and for other purposes. Four ounces of pure gutta-percha are digested with five pounds of methyl-chloroform until the solution is thin enough to pass through filtering paper. It is then filtered (an additional pound of chloroform will facilitate this), and should then be clear and nearly colourless. Alcohol is now added in sufficient quantity to precipitate the gutta-percha in a voluminous white mass, which is washed with alcohol, pressed in a cloth, and dried in the air. It must finally be boiled in water in a porcelain vessel for half an hour, and while still hot rolled into sticks. The chloroform can be separated from the alcohol by adding water, and the alcohol recovered by distillation.

A. B. wishes to know where insect bellows to put insect powder into are sold.

Mr. Roberts (Bridgend).—We have failed to ascertain the date of the repeal, but the information was copied from an authority which we had every reason to trust.

A Constant Reader (Rochester).—A man might practise as a dentist in the United States without a diploma, but he would have absolutely no chance of success.

Ichthyocol.—We have applied to good authorities respecting Beer Finings, but can ascertain nothing more than you appear to know. We beg to refer you to the Editor of the *Brewers' Journal*, 175, Strand.

A. Macnaught (Greenock).—The French Codex is 9s. 6d., and the U.S. Pharmacopœia 6s.

J. D. (Bolton).—Fontainen's work on Precious Stones is unknown to us, and does not appear in any of the English and foreign catalogues to which we have access.

Chemicus (Halifax).—1851. Churchill, if at all.

JUDGE BRADY, of New York, recently decided that patent medicine vendors can be held to a strict legal accountability for the assertions made in their advertisements. How serious some of the craft must have looked at this in America. British vendors have no reason to blush.

Correspondence

SUBSTITUTION OF CARBOLIC OR PHENIC ACID FOR CREOSOTE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR—The value of the wood creosote of Reichenbach as a remedial agent, and its employment in the preservation of articles used as food, has been fully proved during the forty years we have been manufacturers of this article. Of late years its reputation has suffered from the substitution of carbolic or phenic acid for it; and as no good test to distinguish these bodies has been published (and those of our Pharmacopœia are for this purpose useless), I shall feel obliged by your publishing a very simple means for distinguishing these two bodies, which my son, Mr. Thos. Morson, has discovered in making some experiments on adulterated samples recently submitted to us. This test is glycerine, in which true creosote is *insoluble, or nearly so*. Carbolic acid, *on the contrary, dissolves in all proportions*, and any large amount of this latter substance, if mixed with true creosote, will render the creosote soluble.

The danger of substituting carbolic acid for creosote, to be used internally or for food, is well known.

To test a suspected sample, mix it with an equal quantity of pure glycerine: if they unite and make a clear solution, the substance is carbolic acid, or in greater part consists of it.—I am, Sir, yours obediently,

T. N. R. MORSON.

May 13, 1872.

BROWN WINDSOR SOAP.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—In your last number you quoted some remarks made by a writer in *Nature* on the irritating effects of *Brown Windsor* soap on the skin, accompanied with some awful disclosures on the *real ingredients* of this time-honoured compound. You will perhaps allow me, in justice to our "trade," to refute some of these statements, which are, to say the least, most extraordinary.

Brown Windsor soap was originally a *white soap*, which had become brown by age, a sign that it had acquired the mellowness particular to old soaps. At that time, the consumption being very limited, the dealers could afford to lay their stock on the shelf until it had assumed the necessary tint; but in this age of steam and universal ablutions we cannot let the soap *bide its time*, and we impart to it artificially its traditional shade. That it is absurd to do so, I confess, but trade has its exigencies, and it is the fault of the public as much as ours if they will exact this characteristic of the article. This colouring, however, is a perfectly harmless earth, and its worst effect is to darken the water. As to its being due to the "dark, tarry-brown colour of bone grease," it is simply absurd.

That such abominations as are described should be manufactured by unscrupulous people to be sold at the lowest East-end shops is possible, for all trades are exposed nowadays to such inroads from the "cheap and nasty" system, but that "this is the 'Fine Old Brown Windsor Soap' of most of our shops," to quote the writer's own words, I must emphatically deny.

I remain, Sir,
Yours very truly,
EUGENE RIMMEL.

May 9, 1872.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—As readers of your journal, and makers of toilet soaps, our attention was naturally attracted by the article headed "Brown Windsor Soap" in your last month's issue, and we confess we were fairly startled by the alarming, though novel, information therein vouchsafed as to its origin, manufacture, and results.

Were your journal one circulating among the general public, such a tissue of extravagant statements would be calculated to do ourselves and like houses a serious injury. But, happily, pharmacists are educated, as a rule, above the common level, and know that the statements of the writer in *Nature* are as far from the truth concerning the manufacture of the "fine old brown Windsor soap" (we quote his words) as is a counterfeit shilling of the same material as the standard coin, because it bears the same impress.

On behalf of the old brown Windsor soap as manufactured by us, we will content ourselves by simply giving a flat denial to the statements put forward in the article in question:—1stly, as to the origin of its component parts; 2ndly, as to the colouring substance used in process of manufacture; and, thirdly, as to its danger in use. And on this point, as our house has been manufacturing the article for more than half a century, during which time we have sold annually many tons weight of it, we defy him to produce one individual who has suffered, by its use, from "eczematous diseases," and we leave it to the common sense of the trade, as well as to their own experience, to substantiate this vindication of a deservedly popular toilet Soap.

We are, yours respectfully,
LOW, SON, AND HAYDON.

148 and 330, Strand, London.

DOCTORS' DIFFERENCES.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Referring to the personal remarks made by Dr. Tilden, at the last meeting of the Pharmaceutical Society, and, doubtless, published in the columns of your valuable magazine, it was my intention to have overlooked them; but a few scientific friends, whose reputation in the chemical world is as well known as Dr. Tilden's, and who have corroborated the statements I made in my paper on the "Preparation and Composition of Bisulphite of Magnesia," and who have proved his "impossibilities" *possibilities*, and what he calls "incoherently written" *coherently written*, have expressed their surprise, that one with "any pretension to a man of science" should make such bold assertions. And that he, as a humble worker in the vast field of chemical research, should presume to take upon himself the position of a "Faraday," setting himself forward as the gateway "to welcome any new worker." I feel extremely obliged for his kind welcome (?) and I wish to remind him that I am more familiar with the kind of investigation I undertook than he appears to be of my attainments.

As the etiquette generally observed by men of science prevents me saying more, I shall make no further comment on his uncalled for remarks, but refer him once more to my paper, and ask him to proceed to make the salt as there ordered, and subject it to the tests there described, or the chloride of calcium test mentioned by Professor Ross, and pointed out at the meeting by Mr. Williams. I feel sure the doctor's "labour will not be in vain." Apologising for occupying the space of your valuable column

Believe me, &c.,
GEORGE ARCHBOLD, D.Sc.

The Laboratory, 4, Cheapside, E.C.,
May 9, 1872.

DISPENSING.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Far be it from me to wish to add to the sorrow already felt by Mr. Webber in reference to the late melancholy affair at Sidmouth; but in the trade I think some surprise will be excited by the fact of an acquittal on the recent charge at the Assizes.

I would not send these lines to any other organ than one circulating almost exclusively among those concerned in such a matter. In your pages, however, I feel free to offer an opinion or two, which you may, or may not, deem useful.

We never know what a moment may bring about; a little press of business may cause any of us to act inadvertently, and commit in an instant a deed which may embitter the whole of our future lives.

From the evidence in Mr. Webber's case it seems that the dispenser had a strong conviction that thirty grains of morphia must be an error, or why did he venture to alter the quantity, giving only twenty?

To alter the quantity of an ingredient in a prescription is by no means justifiable, as we all know; but when the writer of the prescription is living close by, and is certain, as in this case, to be found at home, it was unjustifiable in the extreme, that, with a doubt on his mind, Mr. Webber should have prepared the medicine at all. Again, that a mixture containing morphia should require instructions to be shaken seems extraordinary, although, indeed, in this instance highly important, as perfect solution was out of the question.

The counsel for the defence thought, or rather felt it is place for his client's sake, to say "that it was a very strong proposition for a druggist's assistant to sit in judgment upon the prescription of an eminent physician." Such a plea as this would have exonerated a dispenser from blame had the quantity of morphia been tenfold what it was. Then, again, had the prescription been written in a schoolboy's text-hand it would have been no guarantee for the safety of the customers. The person putting up the medicine, *did*, in opposition to Mr. Cole's expressed opinion, "sit in judgment" on the matter, and to commit an Irishism we must, I fear, admit that in preference to sending a dose that would certainly kill the patient, he merely put enough into the bottle to deprive him of life! There does not seem to be any mention whatever as to a label on the bottle, so that no check upon the memory was experienced.

The case alluded to by Mr. Cole as having occurred at Winchester, was not owing, I believe, to the absence of "good Saxon English," but to the fact of the bottle having been badly placed on the shelf, the letters, "ine," the three concluding ones in "strychnine," being the same as in "salicine," the latter article being ordered in the prescription. This was therefore scarcely a parallel instance.

Mr. Baron Bramwell may say what he likes; but if a dozen Sir William Jenners had prescribed a dose which the chemist felt sure would endanger the life of the patient. it would, instead of "being a bold thing for the dispenser to refuse making it up," have been very little short of murder to have done so; and perhaps the learned judge would have said the same under other circumstances.

I am, yours,

F.

Maidstone, April 17, 1872.

THE CO-OPERATIVE STORES.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Do not think that in this letter I am going to enter into a dissertation as to the rights of the above. Suffice it to say, every member of the retail trade must admit that their influence is, to a certain extent, undermining almost every business, or, at any rate, preventing that legitimate increase in returns, and therefore in profits, which every industrious tradesman has a right to expect.

Having a post-office attached to my business, I am continually making out post-office orders to the Secretaries of this or that branch of the stores, and can thus see how a share of the damage inflicted by the above is sustained by the tradesmen of this locality (London, N.). The evil admitted, the question arises—"What is the remedy?" I venture to throw out a few hints, which if acted on in every business, would, I think, do much to blight the fruit, if not wither the very leaves of these hitherto rapidly-growing trees.

Let us, as chemists, take the initiative in the matter; and first of all, ascertaining what wholesale firms supply these stores, firmly refuse to deal with them, unless they give up supplying those whose success must materially affect the success of the tradesman. I am quite aware that should the makers of special articles refuse to supply them to the stores, they could still be obtained through other channels; but then a higher price must be paid for them, and that would give one a better opportunity of competing with these places.

It will be no use for anyone to act alone in the matter, there must be a united and decisive action on the part of the trade; and I am sure everyone would willingly contribute something to the expenses which would necessarily be incurred in carrying out the movement.

Could not some papers be drawn up, something to this effect:—"We, the undersigned, finding that you supply the co-operative stores, beg to inform you that unless you cease to do so, we shall discontinue doing business with you." Copies of these might be forwarded to a leading chemist in each locality, and when each one had obtained the signatures of all his brother chemists, a meeting could be held to decide what houses were to have them sent to them, and delegates chosen to carry out the plan.

These hints I venture to throw out, trusting that the ball thus set rolling, may be kept moving until something shall be done that shall result in checking the spread of those places, which must materially lessen the legitimate returns of the retail tradesman.

Yours, &c.,

May 8th, 1872. A CONSTANT READER.

CHEMICAL SOCIETY.

PROCEEDINGS of the Chemical Society, Thursday, 18th April, 1872.

The President, Dr. FRANKLAND, F.R.S., who occupied the chair, announced the presence of Professor Himly, of Kiel, and of Professor Esehenburg, as visitors. After the usual business of the Society, the secretary read two papers by Mr. E. A. Letts, "On Benzyl Isocyauate and Cyanurate," and "On a Compound of Sodium and Glycerine." Professor Himly, who spoke in German, then gave an account of a new method of determining the carbonic acid in sea water, and of an apparatus for collecting the water at great depths, which could be immersed to the required distance below the surface, and there closed by means of stopcocks. These are turned by powerful springs, released at the proper moment by an electro-magnet. There was also a short note by Dr. E. T. Thorpe "On the Action of Phosphorus Pentasulphide on Tetrachloride of Carbon," and another "On the Degree of Solubility of Silver Chloride in Strong Nitric Acid," by the same author. Dr. Hofmann, F.R.S., then gave a brief account of the new phosphorus bases which he had recently obtained by the action of alcoholic iodides on iodide of phosphonium in the presence of zinc oxide, and illustrated his remarks by several striking experiments. The meeting was then adjourned until Thursday, May 2nd, when Mr. E. Riley will deliver a lecture "On the Manufacture of Iron and Steel."

May 2nd.

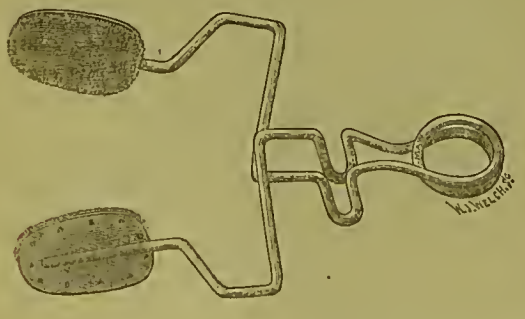
Dr. FRANKLAND, F.R.S., President, in the chair. When the minutes of the previous meeting had been read and confirmed, the President called on Mr. E. RILEY to deliver his lecture "On the Manufacture of Iron and Steel." The lecturer in his discourse treated principally of the elements associated with iron in the pig, and the part they play in the subsequent conversion of the pig into wrought-iron and steel. After describing the composition of the principal varieties of pig, he considered the effect of the presence of the elements, carbon, sulphur, phosphorus, and silicon, in various proportions, remarking that the carbon and perhaps the silicon do not seem to be chemically combined with the pig, but simply to be diffused through the mass. In conclusion the author described the process of puddling by machinery, with especial reference to Mr. Danks' machine. This able and exhaustive memoir was copiously illustrated by analyses. After an animated discussion the meeting adjourned until Thursday, 16th May. Eight communications are announced for the next meeting.

EMULATING the example of Mr. Peabody, Mr. Holloway, the famous purveyor of ointment and pills, intends to devote part of his enormous fortune to charitable purposes. He is looking for a site on which to found, at a cost of half a million pounds sterling, an institution that shall bear his name. The *Australian Journal* is responsible for this paragraph.

DR. DOBELL'S "RESIDUAL AIR-PUMP."

At the meeting of the Royal Medical and Chirurgical Society, April 9th, Dr. Dobell exhibited a little instrument invented by him and constructed by Messrs. Maw, for the purpose of effecting a more complete change of the reserve and residual air in the lungs, in cases of chronic catarrh, bronchitis, emphysema, carbonic acid poisoning, and the like. The instrument is very simple in construction, and and is not so large as an ordinary respirator. It is only to be used for a few minutes at a time three or four times a-day. Its object, stated in untechnical English, is to wash out the lungs with fresh air. When the pipe end is put into the mouth and respiration performed entirely through the instrument; it very speedily exhausts the tidal air from the lungs, and the diaphragm is felt to rise to the greatest height of which it

is capable; this pumping out of the air is immediately followed by a much deeper inspiration than the patient would otherwise take, and hence a larger quantity of fresh air is introduced deeply into the chest, and brought near to the air cells, where the aëration of the blood takes place. By that means, not only is the better aëration of the blood effected, but expectoration from the smaller tubes is facilitated, and—during the period of greatest exhaustion of air—the intravesicular pressure is lessened, and thus over-distended cells are given an opportunity of contracting to their normal calibre.



The first wood-cut represents a side view of the instrument, and the second is a little spring-clip to be applied to the nostrils of those persons who find it difficult to avoid breathing through them while using the residual air-pump. We call attention to this invention, because it appears likely to be extensively used, and will probably be ordered through chemists in the same way as respirators.

THE INVISIBLE RESPIRATOR.

An entire novelty in the respirator line has been introduced by Mr. Nightingale, surgeon-dentist, of Sackville-street, London, and his invention has many recommendations. It is a thin slip of metal, sometimes of solid gold, but also made of other pure metals and gold-plated, fitting easily in the mouth, between the lips and the teeth. It is very small, and easily carried in the waistcoat pocket, and it may be instantly slipped into the mouth, where it is quite invisible. There are two little valves which permit expiration of the breath, but it is impossible to inhale the cold air through the mouth while wearing this, and thereby in the most effectual and simple manner one is brought into the habit of using the nostrils as should be more usual. No cold air can reach the lungs if this habit be adopted, but it is next to impossible to acquire the same except by some such contrivance as this. One not accustomed to keeping the mouth shut finds a constant muscular exertion necessary, and any object which withdraws attention from the exercise of that effort relaxes the muscles of the mouth, and respiration through the lips instantly follows. In leaving hot rooms and in passing rapidly through the air, as in riding, as well as under many other circumstances, Mr. Nightingale's respirator will be found especially valuable.

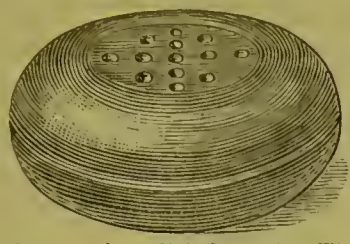
RIMMEL'S NOVELTIES.

We have often been compelled to express our sense of the artistic ability displayed by the leading perfumery houses in catering for the luxury of our age. A fine appreciation of the delicate variations of the subtle essences which nature or chemistry yields is surely an acquirement of which one might as reasonably be proud, as of a palate that can distinguish the degrees of fineness in wines, or even of an ear which can be charmed with the beauties of harmony. We are not sure that it is so regarded, but if this be not the case, the fault certainly does not lie with the professors of the art. It is a hard matter to keep pace with a fashion which owns such an enterprising leader as Mr. Rimmel. Suggested apparently by the popularity which greeted the fragrant Jockey Club Bouquet, we have now from this establishment some sweet and lasting perfumes described as the Cricket Club, the Rowing Club, and the Croquet Club Bouquets. Apparently this is not sufficient: we have also a rich scent called Vanda, representing a Javanese orchid, *aërides suaveolens;* Snow-white, a theatrical favourite dedicated to Mrs. John Wood; and lastly, sweetest of all, an extract of Henna. This, we are assured, is distilled from the flowers of the Henna (*Lawsonia inermis*), a plant known in the East, where women use it to colour their hands and the soles of their feet. Men, too, use it sometimes to dye their beards red. Surely it has only now found its proper place in civilisation. Mr. Rimmel has also introduced a new and a very tasteful velvet-lined case holding three bottles of these perfumes, and forming, thus filled, a charming present. His Aquadentino is a new preparation for the teeth and mouth. He also brings before us some violet-scented Fuller's Earth in cases, which we can hardly call new, but which serves to show that perfumery, like history, repeats itself.

HARVEY'S POCKET DISINFECTANT.

We have received the above from Messrs. Bourne and Taylor, and think it well worth an introduction. It is a small boxwood case, taking up less room than an ordinary

watch, which is perforated with a number of small holes on each face. Inside is contained a pad, which is saturated



with carbolic acid or other disinfectant. The case may be unscrewed, so as to admit a fresh supply of the chemical. It can be easily carried in the pocket, and no doubt its influence would be valuable against small-pox or other such like diseases.

ASPHALTE FLOOR COVERS.

A NEW substitute for carpet or floor cloth is advertised in our pages, and being attracted by the title, we asked the manufacturers to direct us to some place where we could examine the article. They did so, and we have taken some pains to compare the asphalte floor-covers with other floor-cloths of a somewhat related nature. There seems no doubt that for durability and for comfort the asphalte surpasses all the rest. It is very tough and more elastic than they, but when well laid down its surface is very firm and pleasant to walk or stand upon. It is supplied either of a plain drab tint or in tesselated patterns. The manufacturers are Messrs. E. P. Chiles and Co., 57, Belmont-street London, N.W.

PLASTIC COMPOSITION.

THE following describes a patent granted to Thomas B. Gunnings, of New York City, which we copy from the *Scientific American:*—The new plastic composition is claimed to be of great value when applied to the manufacture of boxes and other useful and ornamental articles, since it is strong, durable, sufficiently elastic, beautiful in appearance, susceptible of high polish and distinct ornamentation, and impervious, practically, to air, water, and fatty substances. The composition consists, principally, of finely-powdered carbonate of lime and shellac, so combined and treated as to produce the desired effect. To one part, by weight, of good shellac—preferably the kind known in market as "Camel's"—two parts, by weight, of finely-pulverized marble are added. The ingredients should be finely powdered before mixture, then put into a suitable vessel, exposed to heat, and stirred constantly until melted into a homogeneous mass, which should then be rolled out to a suitable thickness. It can then be reheated, moulded, and pressed or otherwise shaped into the desired form. When bleached shellac is used, it may be necessary to reduce the proportion of marble somewhat, as the fusibility of the shellac is generally diminished in the bleaching process. In some instances, where a light shade is desired, pure white chalk may be used in place of the marble, one part of bleached shellac being used to one and a-half or to one and five-eights parts of chalk. Different colours may be obtained by adding suitable colouring matter to the materials when first mixed. Composition containing different colours can be mixed, so that the articles made from it will present a marbled appearance. Alabaster, travertine, agaric mineral, all the various marbles, and also the calcareous spars, such as calc spar, Iceland spar, &c.; also the marble known as dolomite, containing carbonate of magnesia; also limestone, containing silicate of alumina or clay, or other matter, coral, &c., may be employed in this, their use being covered by the broad claims allowed in the patent, which are as follows: A new calcareous composition made as described, and the method described of preparing the ingredients and producing the calcareous composition. The composition in some of its lighter shades will resemble ivory somewhat in appearance, strength, and elasticity; but, owing to its plastic state when heated, and to its capacity for taking colour, this composition can be more frequently applied than ivory.

THE MONTH

ANOTHER large fire occurred on the 12th of April in Manchester at the factory of Mr. William Mather, Trentham-street, Hulme. The damage done was estimated at £10,000, which was partially covered by insurance.

The *Fiji Gazette* states that some of the white men on the coast have been paying to the native tax-gatherer some of Colman's fancy mustard labels in lieu of dollar notes. The *Fiji Gazette* thinks the Government moral health officer might apply mustard plasters all over these gentry.

Among those who passed the examination in arts of the Apothecaries Society in London on Friday, April 26th, were two ladies, Mrs. Henry Lawson and Miss Alice Rowland. There were fifty candidates, of whom twenty-three were rejected.

At the Court of Bankruptcy on April 6th, Edwin Lankester, M.D., one of the coroners for Middlesex, presented his petition for arrangement or composition with his creditors. His liabilities are estimated at about £10,000. Mr. Munns applied for the appointment of Mr. Whiffen as receiver, and that that gentleman should be authorized by the Court to make all necessary payments in relation to the office of coroner until the first meeting of creditors. His Honour thought the application rather a novel one, but, considering the case analagous to that of a trader, made the required order, and appointed Mr. Whiffen receiver to the estate.

OBITUARY.—We have to record the death of Mr. John Jordan, chemist, of Luton, on the 21st ult. Mr. Jordan was sixty-five years of age.

KILLED BY PHOSPHORUS.—A boy named William Hallow, aged fifteen, employed at Messrs. Bryant and May's manufactory, having seen some experiments made with phosphorus, secreted some in his trousers pockets, with the evident intention of making experiments himself when he reached home. On quitting the works for the night, he was proceeding down the Fairfield-road when the phosphorus ignited, and set him in a blaze. A number of persons rushed to his assistance and tore off the flaming garments, but the fiery compound had penetrated to the flesh, which was then one mass of fire. Means were ultimately at hand to stay the action of the phosphorus, but deceased expired in great agony three hours afterwards. A verdict of "Accidental death" was recorded.

MR. ROBERTSON GLADSTONE AND HABITUAL DRUNKARDS.—A very practical result has followed Mr. Robertson Gladstone's recent proceedings in relation to drunkards. It will be remembered that Mr. Gladstone, who is a town councillor and magistrate for Liverpool, determined to publish the names of those who were locked up for drunkenness on the Saturday night, but who were for the most part discharged before Monday morning upon the responsibility of the inspector on duty, and who did not therefore appear before the magistrates, and thus escaped publicity. It is now found that many of such are actually in receipt of outdoor relief as paupers. It is needless to add that the ratepayers have since benefited by the removal of all such names from the list of recipients of such assistance.—*Medical Times and Gazette.*

Suspicious Death of a Foreigner.—An inquest was held last week by Dr. Lankester on the body of a Swede, named Peter Adolphus Ekstrand, who was found dead at his lodgings, 9, Eagle-street, Holborn, after having taken a quantity of patent (medicine) pills. A surgeon who was called in and made a *post-mortem* examination, said he could not state at present the cause of death. The boxes of pills and ointment were handed to the jury. Several of the jurors recognised the name on the boxes as that of an advertising chemist, and expressed a wish that the pills should be analysed.—The surgeon said he did not know what the pills contained.—The coroner said he had no fund with which to pay 10 guineas for an analysis. The medical witness in the case ought to make it. He ordered the surgeon to take the pills, and on the adjournment tell the jury what they contained, as the law expected him to be able to make the analysis.

Trade Memoranda.

Mr. Allen, late of Tottenham, Middlesex, has succeeded Mr. Musgrave, Union-street, Torquay.

Mr. Crick, of Maldon, Essex, has taken the business lately conducted by Mr. Hayward, of Ipswich.

Messrs. F. Mordan and Co., of City-road, submit to the trade their style of 6d. aniline colours, which they supply in dozen boxes assorted.

Mr. I. Thorp, late of Grantham, has succeeded to the business of Mr. Buck, at Walsall, and Mr. J. Stewart has taken the place vacated by Mr. Thorp.

A rich lavender water with the true odour of the English lavender flowers is prepared by Mr. Perks, of Hitchin, whose farm for the cultivation of the plant is so well known.

The very old-established business of Mr. Noakes, of Brighton, has changed hands. Mr. Noakes is succeeded by Mr. G. J. Haddock, formerly assistant of Messrs. J. Bell and Co., London.

Mr. G. B. Clarke, of Woburn, introduces the Woburn sauce, which connoisseurs will relish. A handsome show-card has also been forwarded to us, a coloured representation of fine old Woburn Abbey making it very attractive.

We have received a circular, or rather a placard, issued by Messrs. Taylor and Son, Skelton-in-Cleveland, Yorkshire, who appear to combine with the business of chemists and druggists other useful occupations. They have an immense assortment of mohairs, &c., &c., at from 2d. to 1s. 6d. per yard. French merinos, &c., at *desperate* prices. In the tailoring department a perfect fit is guaranteed. A paralytic stroke probably for a trifle extra. The grocery and provision department is managed in superior style, and we come finally to the patent medicine department. We shall not attempt to condense the paragraph under this heading:—

"Patent Medicines.—All kinds of pills sold by chemists at 1s. 1½d per box, are still sold by us at 10½d., being a clear saving to the public of 3d. Sole agents in this district for Huntley and Palmer's Reading biscuits. Try our primrose pale soap, at 1s. 3d. the quarter stone; and our London pale, at 1s. We buy them in one ton lots, for cash, or could not sell at the price. Fine green peas (good soft boilers), 6d. the quarter stone."

The *Canadian Pharmaceutical Journal* quotes a pathetic story from a Western contemporary, which asks "How is this for high? "Mr. Gray, of Boston, recently discovered a non-explosive illuminating fluid. To show how safe the new compound was, he invited a number of his friends to meet him in his rooms, whither he had brought a barrel of the fluid, which he at once proceeded to stir with a red-hot poker. As he went through the roof, accompanied by his friends, he endeavoured to explain to his nearest companion that the particular fluid in the barrel had too much benzine in it, but the gentleman said he had engagements higher up, and could not wait for the explanation. Mr. Gray continued his ascent until he met Mr. Jones, who informed him that there was no necessity for him to go up higher, as everybody was coming down, so Mr. Gray started back to be with the party. Mr. Gray's widow offers for sale the secret of the manufacture of the non-explosive fluid at a reduced rate, as she wishes to raise money enough to buy a silver-handled coffin with a gilt plate for Mr. Gray."

Co-operative Items.—The most bitter opponents of co-operative associations will surely relax into a smile at the magniloquent announcements which the managers of at least one of these institutions seem to think the right sort of bait for the intelligent inhabitants of the West-end of London. Announcing in a price list that fish and poultry are to be added to the already varied stock, we are told respecting the first, which is designated as "this necessary and highly nutritious article of daily food," that "the directors are pursuing arrangements for the purpose of equipping a small fleet of vessels for the special service of this association, and thus insure a constant supply of fish to the public at the lowest possible cost." Respecting poultry, "it is intended to establish a farm for breeding poultry of all kinds, and supplying the public at prices only slightly exceeding the cost of production." The employers of the brilliant scribe whose sentences we have just quoted are not either of the Civil Service Associations. When the gentlemen who are so good as to attend the various Government offices announce their intention of commencing the oyster trade, it can hardly be doubted that a grateful nation will place the Channel Fleet at *their* disposal, while Central Africa should be enclosed and set with kidney beans in anticipation of their resolve to commence the greengrocery business.

In memory of the rude and angry manner in which the Chairman of the Board of Inland Revenue flatly contradicted the assertion of the deputation which recently waited on Mr. Lowe, to the effect that these Civil Service Stores, being registered under the Friendly Societies Act, were free of Income Tax, we may now report that in the last balance-sheet presented by the Civil Service Supply Association the ordinary charge for rent, &c., is increased by 459*l.* 16s., which it came out was due to the suddenly-developed consciences of the directors in the matter of taxes. At the recent half-yearly meeting the chairman was very much pressed about the payment of income-tax; and having vainly endeavoured to evade the inquiries, he was at last compelled to admit that it had been paid recently, "on the score of expediency."

A notice has been issued convening a special meeting of the Civil Service Supply Association, at the Cannon-street Hotel, on Thursday, the 16th instant, to consider a proposition of great importance. It is proposed "that the number of tickets issued to persons who are not members of the Civil Service be reduced to 10,000, by not issuing at all such tickets as are not renewed within a specified time."

Cheese and Butter Colouring.—We think it is pretty certain that throughout the United Kingdom fluid annatto has displaced nearly every other article, for giving a tint to cheese and butter. It is chosen for its perfect solubility and convenience, and for its wholesomeness. But we are informed that in America, where cheese is daily growing in importance as a national product, this valuable preparation is but little known. In some parts they use carrots extensively, but generally they colour cheese by melting down roll annatto in water. Both of these processes have drawbacks; the first is inefficient, and if enough is used to obtain the right colour, an undesirable flavour is also communicated; by the second process a good colouring is obtained suspended in water, but along with it a certain organic matter which generates gas when mixed with the cheese. We are informed that it is very necessary that a certain tint should be maintained for each market; the cheeses sent to London, for instance, being different in this respect to those consigned for Liverpool. We cannot but think, therefore, that American druggists would find it profitable to introduce some of our British preparations of fluid annatto, which

have been so thoroughly tested. There are many makers of acknowledged repute, the announcements of several appearing in our advertising pages. We find in the *Journal of the Chamber of Agriculture* a description of the best method of colouring butter, and we should state that the preparation referred to is the excellent Fluid Extract prepared by Messrs. McMaster, Hodgson, and Co., of Dublin. We quote the process, as the hint may be serviceable:—"The quantity required is exceedingly small, a single tablespoonful being sufficient for about one cwt. of butter. The best method of applying it is by adding to the water in which the new butter is to be washed a few drops of the extract until the required tint is obtained; and during the process of washing out the milk, the yellow particles, which have an affinity for oleaginous matter, pass from the water completely over to the butter, thoroughly permeate it with a rich, even, and beautiful tint, without in the slightest degree altering the flavour. It is sometimes added to the milk before being churned, but this is a negligent and inaccurate method of procedure."

Homœopathy and Secret Medicines.—The homœopathic practitioners of Manchester have followed their Liverpool brethren, and seven of them have signed a protest against the introduction and sale of secret medicines by homœopathic chemists, characterising the proceeding as one "likely to mislead the public, and to identify in their minds homœopathy with quackery." The resolution of the Liverpool Homœopathic Medico-Chirurgical Society appears, says the *Homœopathic Review*, "to have formed material for the amusement of the Editor of the Chemist and Druggist. In the last number of that paper the resolution is quoted, and the secret of the composition and virtues of *aconite, belladonna*, and *opium* are said to be as far hidden from medical men as are those of *glykaline*. This is simply incorrect. We do know the 'virtues'—that is to say, the physiological action and uses, of *aconite, opium, belladonna*, &c., but we know nothing whatever about *glykaline*. Hence, if a person has been overdosed with one of these drugs, we are in a position to meet the emergency; but supposing some one to have had too much *glykaline*, we should not be able to relieve him, simply because we should not know with what he had been poisoned. It is herein that one of the chief dangers of secret nostrums consists. But so long as the sale of such preparations will bring in cash, so long, we fear, will chemists, whether homœopathic or allopathic, be too frequently found to advertise, sell, and profit by them."

We shall not attempt to maintain a statement which the *Homœopathic Review* says is "simply incorrect." But we shall for ever maintain that no secret medicine should be condemned merely because its composition is secret. There are secret medicines which in certain cases are the best remedies. The physician *ought* to know of these, and ought not to withhold them from his patient just because somebody gets a profit out of them. To say he does not know of them because he will not is merely begging the question. Quackery is not necessarily involved in the sale of patent medicines. It would be more properly defined as a pretence to skill or knowledge not actually possessed.

Sick Headache.—Dr. Samuel Wilks, of Guy's Hospital, writes in the *British Medical Journal* a commendation of *Guarana* as a remedy for sick headache. The doctor does not state the doses, but states that the *Guarana* may be obtained from Grimault and Company, of Paris. The drug has long been known, for mention is made of it in English and French pharmacologies, but it appears never to have come into general use. It consists of the seeds of a tree growing in Brazil called *Paullinia sorbilis;* and these, according to Johnstone, in his "Chemistry of Common Life," are used as we do cocoa. The seeds are ground into powder, and contain an alkaloid which is said to be identical with that found in tea and coffee. Respecting this same complaint we have before us an article by Dr. Rollin R. Gregg, of Buffalo, N.Y., who endeavours to prove that the use of tea is a prolific source of sick headache. Dr. Gregg is an earnest homœopath, and he will probably recognise in the *Guarana* recommended by Dr. Wilks, which contains an alkaloid said to be identical with that found in tea and coffee, that which, if his theory of the cause of the complaint be correct, would be the true homœopathic remedy.

London and Provincial Reports.

GLASGOW CHEMISTS' AND DRUGGISTS' ASSOCIATION.

THE annual business meeting of this Association was held in the West Hall, Anderson's University, 204, George-street, on the evening of Wednesday, 24th April, 1872, Mr. Thomas Davison, president, presiding. There was a large attendance of members, the minute of last meeting having been read and approved of. Mr. J. J. Weir brought forward a motion, of which he had given previous notice, anent the unnecessary Sunday traffic. He supported his motion by a lengthened address, and after considerable discussion the following motion was unanimously agreed to:—

"That this Association views with sincere regret the widespread traffic in unnecessary articles on Sundays, and having the honour and good of our profession at heart, we resolve to appoint a committee to draw up circulars, first requesting employers connected with the drug business to discountenance the sale of such articles which do not necessarily come within the province of medicines; second, an address to the public in the form of a card which could be placed prominently in the shop, where the attention of customers might be drawn to it, and thus become induced to desist from inquiring for such articles; and third, to the various ministers throughout the City, asking their assistance, and that of their congregations, to curtail or put a stop altogether to the unnecessary traffic." Messrs. Kinninment, Davison, and Weir to be the committee.

The secretary, Mr. Jas. M. Fairlie, was then called upon and read as follows the

ANNUAL REPORT FOR SESSION 1871-72.

"The continued prosperity of your Association is a great cause for congratulation. Many societies such as yours, long before they reach the age of your Association, pine away and die through ill-health, but yours has gone on from strength unto strength, always growing in usefulness and influence as it grows in years. The session 1871-72 has been no exception. The membership consists of thirty-eight employers, fifty assistants, and six apprentices; ninety-four in all. This is a smaller number than the year immediately preceding, but the novelty of the new meeting-place having worn off, and the subscription having been so largely increased, fully account for this change.

"The proceedings throughout the year have been carried on with the usual spirit, the chief features of the session being the opening address by Mr. Stanford, of the British Seaweed Company; and the address on Indian Poisons, by Professor P. A. Simpson. The Association has also been indebted to Mr. M. H. Cochrane, F.C.S., Demonstrator in the Andersonian Laboratory, for two very practical papers; and to these gentlemen your Council would again tender their most sincere thanks.

"The other papers by members were more numerous this session than formerly, and several of them having found their way into some of the trade journals, proves that they were of no mean order. The discussions held throughout the year were well sustained by the members generally, and were both interesting and instructive. The annual festival taking the form of a supper this year was quite a success.

"The pharmaceutical botany class, conducted by Mr. Hennedy, and the chemistry class by Dr. Moffat have been comparatively well attended throughout the year, but the experience of your Council regarding these special classes have brought them to the conclusion—first, that a single course of lectures given once a week is not sufficient to prepare students for the various examinations to be passed in connection with pharmacy; and, second, that in a city like Glasgow, where so many educational advantages exist on such liberal terms, if the early-closing movement were carried out, they would not be necessary; and your Council would recommend all students to make such arrangements with their employers as will enable them to attend, at least, one of the regular classes in Anderson's University—a six months' course of theoretical, and two or three months of practical chemistry, with six months of materia medica, and a previous know-

ledge of Latin, botany, &c., which might be easily obtained at evening classes, together with the pharmacy practice in the shop, should enable almost any one to pass the various examinations, though all should aim at a much higher tandard even than this. It may be well to mention that he matriculation fee is not charged to any but to those studying for medicine at Anderson's University, and it might be a recommendation to the Council elect to ascertain if students in pharmacy could not be allowed to attend the Andersonian classes even on more advantageous terms than the regular students. Only eighteen members came forward to Dr. Moffat's chemistry class this session, occasioning a loss of about £6 to the Association; but those who did take advantage of it have derived considerable benefit, though, as stated above, the term was too short for all practical purposes. These and other reasons have prevented your Council from making any new arrangements for special classes. The number of failures in some of the examinations of the Pharmaceutical Society have attracted considerable attention of late, more especially with regard to apprenticeship and provincial education, and we are glad to observe that the Council of the Pharmaceutical Society, principally through the exertions of Mr. Frazer, the Glasgow representative, have decided to reconsider their mode of giving aid to provincial associations; and your Council hope that before another year some such proposal as that suggested by Mr. Frazer will be agreed upon, and that, in future, all societies such as yours throughout the country will have something tangible to look forward to every year, and not an isolated and paltry sum which your Association has hitherto considered it beneath them to ask for. It is certain, at all events, that provincial associations can do but little without the prospect of regular help from head-quarters at London.

"The question of prices, we observe, has again come up for consideration, and your Council express the hope that Glasgow, which has been so long behind other towns in this respect, will soon be on a level with its compeers. A better opportunity certainly could not present itself than the present, when not only tradesmen of all grades are getting higher wages and shorter hours, but the present high price of many drugs and chemicals demand that something shall be done to remedy the anomaly which has so long existed among us.

"We are glad to record that the early-closing movement has at last resulted in something fruitful, and we earnestly hope that those still adhering to the late hours will be induced this summer to adopt the 8 o'clock movement also. It is but fair to say that the reduction of the hours of labour on the south side of the river has been brought about chiefly by the efforts of the Assistants' Association, a society which has sprung into existence for this purpose, although we believe they intend, after securing the short hours to all, to remain organised for mutual improvement. Your Council look upon this step of the young men as very promising for the future body of pharmacists; it is hoped that they will not only continue to go hand in hand with the senior Association in their efforts for advancing the educational status of the trade, but will acknowledge gratefully what has already been achieved for their good.

"In conclusion your Council hope that the earnestness and energy which has hitherto characterised the members of your Association will continue, and as we hope ere long to have increased facilities for meetings and mutual intercourse, may we always have in view the advancement of pharmaceutical science, and as our business is one of a humane nature, may we in our studies, as well as in the pharmacy, do our utmost to alleviate the sufferings of our fellow men."

Mr. YOUNG, Treasurer, was then called upon, and read the financial statement, of which the following is an abstract:—

RECEIPTS.

	£	s.	d.
To Balance from last year	4	18	1½
Donation, William Greig, Esq. (Now Apothecaries' Hall)	1	1	0
Ditto W. and R. Hatrick and Co.	1	1	0
Ditto Thomas Davison	1	2	0
Four Donations, 10s. each	2	0	0
Thirty Subscriptions, 5s. each	7	10	0
Fifty Ditto 2s. 6d. each	6	5	0
Six Ditto 1s.	0	6	0
Eighteen Fees for Chemistry Class, 15s. each	13	10	0
Attfield's Chemistry for Class	0	0	6
Supper Account	16	0	0
	£62	13	7½

EXPENDITURE.

	£	s.	d.
By Hall Rent, and Janitors' fee	10	12	0
Eighteen Chemistry Class fees, 21s. each	18	18	0
Attfield's "Chemistry"	9	0	6
Printing Account	0	14	6
Supper Account	14	16	6
Postages, Stationery, etc.	1	14	4½
Balance in hand	0	17	9
	£62	13	7½

Audited, and found correct.
(Signed) JOHN MCMILLAN, ROBERT T. DUN, } *Auditors.*

Mr. WEIR moved, and Mr. HUGGINS seconded, the adoption of the reports, which was unanimously carried.

Several motions were then brought forward, and referred to the Council for further consideration.

The election of officers, Council, and auditors for the ensuing year was then proceeded with, and the following were declared duly elected:—

President:—Mr. Thomas Davison.

Vice-President:—Mr. John Jaap.

Treasurer:—Mr. William Young.

Secretary:—Mr. J. A. Clarke.

Council:—Messrs. Daniel Frazer, Alexander Kinninmont, William Whyte, John Black (Rutherglen), John McMillan, James M. Fairlie, John Fenwick (Strathbungo), Robert Brodie, Archibald Paterson, Andrew Waddell, J. J. Weir, and John Murdoch.

Auditors:—Messrs. J. L. McMillan and Robert T. Dun.

On the motion of the CHAIRMAN, seconded by Mr. A. W. RITCHIE, a very hearty vote of thanks was awarded Messrs. Robert Brodie and James M. Fairlie for their valuable services during the past three years as Vice-President and Secretary to the Association.

The meeting then separated.

LAW AND POLICE.

INJUNCTION AGAINST A CHEMICAL MANUFACTORY.

A motion was heard before Vice-Chancellor Wickens, to the effect that Mr. William Davey be restrained from carrying on the production of sulphate of ammonia, the distillation of coal tar, and the manufacture of other chemicals, in his factory situated in Hackney; it being alleged that the said factory was a nuisance to the neighbourhood. Mr. O. Morgan, instructed by the Board of Works for the Hackney district, applied in support of the motion; and Mr. Miller for Mr. Davey.—Mr. Miller said that he noted that it was complained of his client's factory that there was not any escape of offensive vapours from the pitch tanks, but there was from the stills at work; and to obviate this, Mr. Davey proposed at once to pull down these stills and to stop the work, and only to erect three instead of eight. Mr. O. Morgan said he could not be satisfied with this, but must press for the injunction, to which he said he was entitled by default. Mr. Miller said that his client was about setting up premises in a totally different locality, but it was impossible to remove the creosote, coal tar, and other material from the factory in Hackney. He, therefore, asked for time to be granted, when he should not object to the injunction.—The Vice-Chancellor:—The injunction could not operate immediately. If the nuisance cannot be abated, it must be removed, and time must be given to remove it.—Mr. Morgan: Perhaps I had better take a perpetual injunction. Practically the matter is disposed of; therefore I will take a perpetual injunction, as at the hearing.—Mr. Miller: I do not like to consent to that, in the absence of my client, but it seems to me to be quite right.—The Vice-Chancellor: I cannot do anything without consent. You may take a perpetual injunction if you consent.

PUTTING GOODS ON THE FOOTWAY.

At the Sheffield Police-court, Mr. J. J. Riding, chemist and druggist, carrying on business in London-road, Heeley, was charged with obstructiug the foot-path by putting goods outside his shop. A police-constable stated that he was recently on duty near the defendant's shop, when he saw two oil casks on the footpath outside the shop door. They were causing an obstruction to traffic, and the constable asked

the defendant to remove them. This the defendant declined to do, and remarked that he did not care what course the constable pursued in the matter, inasmuch as he was justified in acting as he had done. After hearing the evidence of the case, the magistrates ultimately fined the defendant 5s. and 4s. costs.

THE SALE OF WINES AND SPIRITS BY DRUGGISTS.

At the Wigtownshire licensing court last week, an application was made on behalf of Mr. M'Creath, druggist, Newton Stewart, for a grocer's licence to enable him to sell Gilbey's wines and spirits. Mr. Murray stated that he objected to increasing the number of licences, and he specially objected to a druggist holding a licence. Sheriff Rhind thought that this was not strictly speaking an increase to the number of licences, but that it was substantially a wine merchant's licence to sell wines and spirits, not to be consumed on the premises; and as the lowest quantity was to be in a bottle, sealed with Gilbey's trade-mark, it could not be considered a public-house. Mr. M'Cutcheon said he was aware of the respectability and fitness of Mr. M'Creath to act as an agent for Gilbey, but, on looking to the terms of the certificate, he was of opinion that the applicant would not be permitted to open his drug shop on Sundays if he held this licence; and, therefore, he suggested an adjournment of the case, that the clerk might request the attendance of the applicant in order that he might make his election either to accept the certificate, if the Court were disposed to grant it, or shut his shop on Sabbath. The case was therefore adjourned.

PETTY THEFTS BY A DRUGGIST'S ASSISTANT.

Frederick Ethell, druggist's assistant, was charged by Mr. James Wilshaw, of Wordsley, on April 22nd, at the Brierley-hill Police-court, with stealing a quantity of tea, soap, coffee, and cocoa, also several hair brushes, a tooth brush, several small bottles of oil, packets of note paper, &c., from his shop. The prosecutor said that prisoner had been in his employment as assistant since last September. For about a fortnight prosecutor had missed small articles from his shop, similar to those now produced in Court. Being dissatisfied as to the conduct of the defendant, he dismissed him without notice, paying him the whole amount of salary due, and telling him to leave at once. When the prisoner went upstairs to pack up his things, prosecutor followed and requested to be allowed to search his box. Prisoner said there was nothing in it belonging to him; but prosecutor insisted upon examining its contents, the result being that he found the articles above enumerated, the whole of which he identified as being his property. Mr. Wilshaw then sent for the police, and gave prisoner into custody. Prisoner pleaded not guilty, alleging that he had bought the articles which were found in his box at Birmingham. He was committed to the next Staffordshire quarter sessions for trial.

ROBBERY BY A BOY.

A Glasgow druggist's shopboy has been apprehended for stealing £8 from his master's desk. The youth invented a sensational story that the money had been taken by two men, who both fired at him with pistols, and that he had bravely defended himself with the poker. The tale, however, was found to be inconsistent, and the lad subsequently admitted his guilt.

ALLEGED WIFE POISONING.

An inquest was held on the 13th ult., at Hyde, on the body of a woman named Mary Hannah Hickling, who died suddenly the previous day. The symptoms, in the opinion of Dr. Beecroft, were not only inconsistent with death from natural causes, but were almost a positive proof of death from tetanic convulsions caused by a virulent poison. The inquiry was therefore adjourned, that a *post-mortem* examination might be made, and the contents of the stomach analysed by Dr. Grace Calvert, of Manchester. The inquest was completed on Saturday. The evidence of Dr. Calvert was to the effect that the stomach contained strychnine in a large quantity. Evidence was also given by a little boy named Thomas Costello that about the time deceased's husband was known to be in Hyde, on the evening the woman died, a man, dressed similar to the husband, had met him in the street and sent him to the shop of Mr. Oldfield, druggist, for three vermin powders; and it was stated in evidence by Mr. Oldfield that he himself manufactured the vermin powders, and that each of them contained a grain and a half of strychnine. It was also stated by Dr. Lewis, of the Manchester Royal Infirmary, that the deceased's husband came to him the day after her death—she having been an out-patient of the infirmary—and told him that his wife was dead; that she was sitting up, suddenly became faint, and died. On the faith of that statement he gave Hickling a certificate that his wife had died of disease of the heart. It was further stated that the husband had behaved very badly to the deceased. The jury returned a verdict of "Wilful Murder" against the husband. The coroner committed Hickling for trial at the Chester assizes.

VACCINATION STATISTICS.

DR. BALLARD, of University College, London, in a recent essay on Vaccination, gives the following statistics:—

1. As regards the decreased mortality from small-pox since the introduction of vaccination.

In London, from 1750 to 1800, 9·6 per cent. of all deaths were from small-pox. They decreased as follows:— From 1810 to 1820, 4·2 per cent.; 1820 to 1830, 3·2 per cent.; 1830 to 1840, 2·3 per cent.; 1840 to 1850, 1·8 per cent.; 1850 to 1860, 1·2 per cent.

In Austria, Prussia, France, Denmark, and the British Islands the decrease has been strongly marked. We give that of Austria, as the dates are more uniform than elsewhere:—

Average annual death-rate from small-pox, per million of population.	1777 to 1806	1807 to 1850
Upper Austria and Salzburg ..	1,421	501
Lower Austria	2,484	340
Styria	1,052	446
Illyria	518	244
Trieste	14,016	182
Tyrol and Voralberg.....	911	170
Bohemia	2,114	215
Morvia	5,402	255
Austrian Silesia	5,812	198
Gallicia	1,194	516

2. As regards the comparative fatality when small-pox attacks those who have been vaccinated and those who have not:—

Place and time of observation.	No of cases observed.	Percentage of cases terminating in death. Among the unprotected.	Among the vaccinated
France, 1818-41.....	16,397	16	1
Cant. Vaud, 1825-9	5,838	24	2
Milan, 1830-51	10,249	38½	7½
Carinthia, 1831-5	1,626	14½	½
Lower Austria, 1835	2,288	26	11½
Bohemia, 1835-55.....	15,640	30	5
London, Small-pox Hospital, 1836-56.....	9,000	35	7
Vienna Hospital, 1837-56	6,213	30	5
Wirtemberg, (no date given).....	6,258	30	3½
Malta, no date	7,570	21	4

3. *As regards Vaccination.* In Wirtemburg in five years, among 84,248 re-vaccinated adults, there were but two cases of small-pox, while among 363,298 having been vaccinated in infancy only, there were 1,058 cases. One successful re-vaccination at or after puberty is all that is required to supplement the infantile vaccination. This is attested by the experience of many physicians, and many statistics too scattered to be quoted here. The cicatrix should be well marked.

4. *As regards the Communication of other Diseases by Vaccination.* Numerous English, French, and German physicians, some of whom have vaccinated over 40,000 children each, testify that they have never known a case of such communication. A few physicians testify to a few isolated cases of the contrary. If they exist, therefore, they must be extremely rare. But there is reason to suppose that in these cases the disease has been communicated otherwise, for certain French and German physicians have tried to communicate syphilis and scrofula in this way, and have failed in every case.

Exchange Column.

REVISED TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the publisher of the CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to "The Publisher of the CHEMIST AND DRUGGIST, Colonial Buildings, Cannon-street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

Sheep Dipping Apparatus complete. 30/500.

Three five-grain Pill Machines, to roll 12, 18, 24. Price 6/, 9/, 12/. In thorough order. Mandley, Teignmouth.

A Printing Press with furniture, roller, slab, ink, and six pounds new Brevier Type; all for 30/. 23/500.

Oliver's "Elementary Botany," new, 3/. J. Tully, jun., East Grinstead.

Four Bell-metal Mortars. Size, two one quart, one three pint, one eight pint. E. F., Foley House, Malvern.

Erichsen's "Surgery," in first-class condition; 1853 edition. Cost 25/. Price 10/. 10/500.

Two Eight-gallon Show Carboys, pear shape, 15/ each; cost 25/. H. Story, 43, Fish-street-hill, London, E.C.

A Mahogany Nest of Nine Label Drawers, fitted. Cash or exchange. Cheverton, Tunbridge Wells.

One Show Jar, 24 inches, three do., 12 inches; and four Carboys. R. Griffith, Slough.

Formula for Diarrhœa in Cattle and Sheep. Copies 2/6 each. J. Tully, jun., East Grinstead.

Formula for Gripes in Horses—sure cure; copies, 2s. 6d. J. Tully, jun, East Grinstead.

Buckle's Leech Conservatory, six quarts, 2/6. Burrow's Soda Water Rack, four dozen, 6/. Walter Stead, Westgate, Heckmondwike, Yorkshire.

Fly papers 10/ per 1,000. Sample 1,000 carriage paid on receipt of stamps. "Chemicus," Mount Pleasant-square, Salford.

A quantity of Gabriel's Preparations for the Teeth. Also several Pulvermacher's Galvanic Chains. Cheap for cash. 24/500.

Binocular Microscope, first-class, with Polariscope, quite new; in handsome polished mahogany cabinet, only £10 10s. Apply, B., 151, Hoxton-street, London.

Kay Shuttleworth's "Chemistry," latest; Attfield's "Chemistry," latest; 250 gal. wrought-iron Tank. Clark, Chemist, Stourbridge.

Seven 5/, and six 2/6 parts, Watts's "Chemistry," Nos. 1 to 14; clean and uncut. Offers wanted. G. M., Mr. Paterson, tobacconist, 54, Duke-street, Leith, N.B.

About 120 carefully selected specimens of Materia Medica in neat cardboard boxes, with descriptive labels attached. A really valuable collection. Price 25/. 11/500.

Pharmaceutical Journal, three volumes, half calf, very clean, from January, 1842, to March, 1844, inclusive. William Foggitt, Thirsk.

Six Plate Glass Shelves, 49 in. long, 6 in. wide, ½ in. thick, front edge polished. Cost 20/ each. Cash or exchange. Cheverton, Tunbridge Wells.

A large solid Mahogany Desk, with drawer beneath; suitable for counter. Cash or exchange. Cheverton, Tunbridge Wells.

Five Hundred dozen (or less) Indian Vegetable Flesh Rubbers, at 2s. 6d. per dozen. Apply to G. Dowman, chemist, Southampton.

Fifty Tins, 14 lb. each, very fine Natal Arrowroot, Single Tins 8½d; Broken Case. Marston, chemist, Forest-hill, Surrey.

Beasley's "Formulary," eighth edition. Ten gallons Tincture Cantharides, B.P., pure spirit, and thirty gallons Methylated. Offers wanted, or will exchange. Samuel Cookson, 81, Oldfield-road, Salford.

Sixpenny Tooth Powders, camphorated and others; 18 dozen. Elegantly got up for order, now countermanded. 2/6 per dozen, or exchange. Shaw, Sachet-maker, 8, Allen's-buildings, Paul-street, London, E.C.

Fownes' "Chemistry." Twenty-seven consecutive volumes *Pharmaceutical Journal*, bound in half calf, in excellent condition. For price enclose stamped envelope, and address 9, Church Gate, Loughborough.

Seven Briet's Syphons, quarts; Marble Slab Pill Machine, new; Five Roche's Embrocation; Six Measam's Cream; Two Pike's Powders; Two Daffy's Elixir, 2s. Offers for whole or part. Bright, Norfolk-square, Brighton.

Herbariums, containing Specimens of all the most important orders, etc., of Flowering Plants. Invaluable to students preparing for examination. Price only 7s. 6d. Henry Higginson, M.P.S. (1847), New Ferry, Cheshire.

Twenty-nine Pockets Hops, Patent Medicines, Sundries, various Drugs and Chemicals, two Specie Jars, with Circular Mahogany Stands, nearly new. L. R., 309, New North-road, London, N.

Pharmaceutical Journal, vols. v. to xviii., old series, vol. i., new, inclusive, bound equal to new. *Pharmaceutical Times*, vols. i. ii. iii., bound. CHEMIST AND DRUGGIST, 1862 to 1871, inclusive, unbound, together or separate. Offers wanted. J. Ruston, chemist, Maryport.

Burrow's Soda Water Rack, two dozen, 5/; one gal. Glass Percolator, 10/, slightly cracked under top rim, but good as new for use. "Francis's Practical Receipts," half bound, 8vo, 2/6. Paris's "Pharmacologia," vol. i., 8vo, to match, 2/. G. Weston, Sleaford.

Evans, Lescher, and Co.'s Materia Medica Chest, large size, equal to new, 25/. Mackintosh's Air-bed, with pillow, and bellows complete; scarcely used. 34 by 30. Price 20/. One and a half gallon Tin Still, with refrigerator, etc., quite new, 15/. J. Allen, chemist, Plymouth.

Twelve Cooper's Wheat Dressing; Seven 6d., Five 1/, and five 1/6 Liebig's Malted Food Extract; Shaw's Hair Restorer, 3/; Fourteen 2/6, and Fifteen 5/ McDougall's Sheep Dipping. W., 12, Chapel-street, Stratford-on-Avon.

A Formula for preparing Chlorodyne equal to Collis Brown's, and no perceptible difference either in taste, appearance, or effect; cost of preparing less than 4s. lb. Copies 5/ each, or the article supplied at 5/ per lb. Halford, chemist, 301, New John-street West, Birmingham.

Second-hand set of Dental Instruments, Evrard's make, good as new, in morocco case—consisting of a perfect set of forceps (twelve), key with two claws, ten pinion-wire excavators and drills; twelve ivory handled excavators, Archimedian screw. Price 3 guineas. Address, R. Varndell, Grovelands, Farnham, Surrey.

Highly-Finished Microscope, having Focussing Rack and fine Screw adjustment. Screw and Rack to Stage, two Eye-pieces, two Triplet Object Glasses, Stand-Condenser, Polariscope, Stage Forceps, Hand Tweezers, Live Box, Mahogany Cabinet, having three Drawers for accessories. £6 10s. Payne and Chapman, 63, Piccadilly, Manchester.

For thirty stamps will be sent an original and infallible prescription, together with full instructions for curing Spermatorrhœa. Every case treated has recovered quickly. The remedies are uncommon, and totally different from the usual medicines employed in these cases. Address, M.R.C.S., care of Mr. Barry, Conduit-street, Leicester.

Two Show Carboys of ten to twelve galls., Cut Stoppers and Stands; A Soda-water Shop Fountain, with two taps and bottles, White Metal Pillar and Marble Slab; two Small Stills, a quantity of Plaster of Paris Casts (the French Kings, etc.), and Binding Screws; a Smee's and Voltaic Battery. 52/500.

Half Gallon Graduated Glass Percolator, quite new; two 6 Gallon Window Carboys (round), with Cut Glass Stoppers; Sixteen Whitwell and Mark's Dandelion Wine; Twenty-one assorted Spring Trusses, four double. Six Silcox's Curative Invisible Lever Trusses; Six ditto for Children. All in good condition. Offers wanted. T. Farthing, chemist, Spennymoor.

A Formula for preparing a certain cure for Diarrhœa or Scour in Cattle and Sheep, being the prescription of a retired member of the Royal College of Veterinary Surgeons, who used it in private practice for upwards of twenty years, with eminent success. It can be easily prepared, and may safely be administered to calves or lambs, however young. Copies 10/6 each, with full directions for use. Apply first to W. W., 48 Claremont-street, Stapleton-road, Bristol.

Four pounds Turkey Sponge, perfectly dry and clean, average twenty-two to the pound. 12/ per lb. Four oz. sample on receipt of forty stamps. 18 dozen half-pint wide-mouthed Green Flats, at 8/ per gross, new. 1½ dozen "The Eastern" condiment, at 6/. Seven 2/ Ramsden's Positive Collodion, for 6/. Ten 2/6 Ponting's Collodion for 11/. 2 lbs. Ess. of Strawberry, at 1/6 per lb. The following patents at half list prices:—Five 2/9 Cheddon's Pills, one 1/1½ Corley's Plaster, three Maish's Plaster, eight Sawyer's Plaster, two 1/1½ and one 2/9 Dodd's Gout Pills, twelve 1/1½ Dr. Willson's Skin Pills, three T. Cull's Pills, six Virginian Gum, one 4/6 and one 2/9 Moxon's Magnesia, six 1/ Parr's Foot-rot Ointment. J. Floyd and Co., Bury St. Edmunds.

WANTED.

A good second-hand Microscope. 24/500.

A good Work on the Diseases of Horses and Cattle. 43/500.

Three Six-gallon Carboys. 52/500.

Two Pear-shape Show Carboys, cut stoppers, 31 in. or 34 in. high. Price required. Banks, chemist, Stockport.

Immediately. One of Rimmel's Perfume Fountains, in good condition. 2/500.

"Pharmaceutical Latin Grammar." State price, to G. Sant, Rose Bank, Leek.

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Gray's "Supplement," latest edition. Pontbury-street, Devizes.

"Proceedings of British Pharmaceutical Conference," 1863, 1864, and 1865." Wentworth L. Scott, Wolverhampton.

A Leschen's Cabinet of "Materia Medica," in good condition. State lowest price. W. Farnsworth, 1, Wellington-terrace, Westbourne-road, Liverpool-road, Islington.

Two six-gallon and two four-gallon Carboys, with cut stoppers. Also a set of Tooth Forceps. J. A. Wright, Haslingden.

Attfield's "Chemistry." Royle's "Materia Medica." Oliver's "Lessons in Botany." Bentley's "Botany." State price and condition to A. F., 20, Sussex-place, Reading.

Two Four-gallon Pear-shape Globes. Three dozen each W. and N. M. 30 oz. Bottles. Three dozen each W. and N. M. 4 oz. Bottles. Two dozen 3 lb. Drab or Blue Jars. Leech Aquaria. W. Fletcher, Medical Hall, Ilkeston, Derbyshire.

Fancy Labels, variety, to insert in albums of ditto. Magendie's "Formulæ," 2s. 6d. Owen's "Conspectus," 2s. 6d. Cooke's "Botany," 1s. Owen's "Receipts," 2s. 6d. offered, in exchange. Shaw, Sachet Maker, 8, Allen's-buildings, Paul-street, London, E.C.

Mr. Floyd, of Bury St. Edmunds, who has frequently used our "Exchange Column," is good enough to write to us as follows:—

"My use of the 'Exchange Column' has answered well. On most occasions I might have sold the goods many times over. Those who sent cash with order got attended to."

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TRADE REPORT.

THE German Government has been drawing on account somewhat extensively, and during the past week 300,000*l.* has been taken from the Bank for transmission to Fatherland. This large outflow of gold, together with an active demand for money, created a justifiable reason for the tightening of the market.

Consequently the Bank directors on the 9th inst., after a rather lengthened consultation, raised the official minimum from 4 to 5 per cent.

The Alabama Claims are still the question of the hour, and it must be confessed that the anxiety with regard to their settlement exercises an adverse influence on our commercial transactions. A final decision, however, is now expected daily; and it is not to be doubted that the prospects of a permanent and honourable arrangement between the two great Anglo-Saxon nations seem brighter just now than for some months past. It is to be earnestly hoped that General Grant, who may have but a few more weeks to live as President of the United States, will have the courage and the enlightenment at this time to disregard a momentary clamour, for the sake of winning a lasting renown, a reputation with posterity as a peacemaker which shall outshine that which he has already gained as a warrior. Whether he or Horace Greeley shall occupy the presidential chair during the next term is a small matter in comparison to this one; but it need hardly be said that Mr. Greeley's uncompromising opposition to free trade in any shape does not recommend him to the sympathies of British merchants. It may be that his campaign may arouse a discussion in the United States which shall result unsatisfactorily to the Protectionist party.

During the past month that activity in the drug market, so apparent in the first three months of the year, has scarcely been maintained, albeit good supplies have been available.

Aloes.—Socatrine still much wanted: the small lots put forward have been taken at strong prices. Barbadoes somewhat neglected, but Cape in good steady demand, on rather easier terms.

Cardamoms have further declined, and there are large stocks. In the face of easier prices, a good demand has prevailed.

Camphor remained quiet up to the Dutch Company's sales, on the 26th April, when 4,800 tubs were disposed of at firm prices. This gave considerable confidence to holders, and deterred them from realizing to a great extent. The consequence has been a progressive advance in prices, and the present value of crude is 90s., refined being worth ½d. per lb. more than last quotation.

BARKS.—Cinchonas have not sold freely, and at the special auctions on the 10th inst., of 1,340 packages offered, only a few parcels found buyers, at about previous rates. Cundurango. Of ten bales put forward five were sold at 1s. per lb. It is not without satisfaction that we note the complete downfall of this article, the former extravagant prices paid for which we always ridiculed as incompatible with its value as a therapeutic agent.

GUMS.—Assafœtida: A large parcel from Bombay was offered at auction on the 25th April, and excited considerable attention, the market having been almost devoid of the article for some time previously. The whole quantity, consisting of 255 cases, was taken at prices varying from 90s. to 117s. 6d., according to quality. A further supply of 88 cases has since been disposed of on easier terms, and the gum will be bought still cheaper shortly. Ammoniacum has been in fair demand, and is worth more money, whilst of Olibanum an unusually heavy supply has been available, 1,150 cases of 2,145 submitted for disposal finding buyers at about previous value. Benjamin and Gamboge still well inquired for, and selling at firm prices. Arabics.—Picked East India command better rates, while the commoner kinds have been neglected. Fine picked Turkey well sustained.

Shellacs have been the medium of good business, fine orange descriptions selling at an advance. Latterly, however, the market has been dull, but prices are maintained. Dragon's Blood: For lump a fair demand has been apparent, but reed continues somewhat neglected.

ROOTS.—All qualities of Rhubarb are dearer, and fine is much wanted. Ipecacuanha has been rather less active, with slight reduction in price, and Senega continues dear, but with little doing. New Orris will soon be on the market, and may then offer more inducement to buyers.

ESSENTIAL OILS.—Aniseed, which, owing to large stock, was much depressed when we last reported, has recovered, and is about. 2s per lb. dearer than last quotation. The active and persistent demand we have reason to believe is of a speculative character, and it would be hazardous to purchase on the supposition that the present price is any true index to a *bonâ fide* demand likely to continue. Citronelle is easier, present value being 2½d. per oz. It is now pretty certain that the sudden rise in this article a short time since was not due to scarcity of supply in Ceylon, but merely to holders there keeping back stocks. Lemongrass maintains previous rates, but the amount of business has been limited. This likewise applies to Cassia, small sales of which have been effected at 6s., being an advance. Nutmeg is scarce, and fine Cinnamon still in very limited supply.

Musk continues in good request, but there is not much really fine offering. In auction, 28 caddies Tonquin sold, good fair to good shaped pods at 42s. 6d. to 47s. 6d., fair 41s. to 42s., flat and bally 21s. to 22s. 6d. Of 9 tins Grain 4 tins good sold at 57s. to 58s. 6d., the remainder bought in at 60s., and one bottle at 55s.

Cantharides are now obtainable on slightly easier terms. Copaiba Balsam is scarce and dearer, 9 casks out of 12 selling on the 9th at 2s. 3d. Cocculus Indicus gives signs of following the example of Guinea Grains, and the position of these articles must be causing anxiety to the brewing interest.

SPICES.—Pepper: There has been less demand, and prices have slightly given way. At Public Sales, on the 1st instant, 1841 bags went off slowly, and only a portion found buyers. White has been the medium of fair business, but latterly a quieter tone has been manifest. Cloves: Zanzibar have been taken at an advance, and early last week 700 bags sold privately at 4½d, since when no business has occurred. Cinnamon: At the Sales on the 27th ult. of 290 bales Ceylon, chiefly of fresh import, 230 sold at fully previous value. Good 1sts, 3s., 2nds, 2s. 9d., 3rds, 2s. 6d. per lb. Pimento has met less demand, and is cheaper. Ginger: Cochin has been offered freely, but the demand has not been very active, and easier rates prevail. Jamaica continues to sell steadily. Nutmegs and Mace are both procurable on easier terms. With reference to these spices, a correspondent at Batavia reports "stocks cleared, and last lots sold for Singapore. The feeling for Banda is very firm; but it looks as if the merchants here have no reason to accede to the high prices asked for the coming crop."

DRYSALTERIES.—Cochineal: During the month 2873 bags have been put forward at Public Auctions, but the demand has not kept pace with these heavy supplies. Teneriffe black and silver have both declined 1d. per lb. Turmeric: Holders have shown more desire to sell, and considerable business has been done at previous rates, amounting to about 10,000 bags Bengal at 17s. to 17s. 6d. Gambier: The market has been declining, and sales for forward delivery have been made at rates greatly below present quotations, which are not much reduced, the supply on the market being small. The quantity afloat for Great Britain and the Continent is very large, 10,378 tons, against 2795 in 1871. Present stock is about 680 tons. Safflower is very dull of sale, and China Galls offer more advantage to buyers.

CHEMICALS.—The American demand has slackened somewhat, but the market has not been much affected in consequence, as orders from the Continent and for home consumption have kept makers well employed. Both citric and tartaric acids are lower, and the former may now be bought for 3s. 8d. Bleaching powder is easier, business having been done at 16s. 6d., which is the present value. Soda crystals have been quiet, and a decline has taken place. Bicarbonate may now be bought for 16s. 9d. Nitrate of soda has fluctuated, and sales have not been extensive. Iodine is a shade easier, but iodide of potassium remains firm at 35s., and bromide is obtainable at 4s. 9d. Chlorate of potash further reduced in price being pressed for sale, and English offered at 1s. 9d. Alum has been in very fair demand at £8 to £8 10s. for lump and £9 for ground. Cream of tartar is a trifle easier, and quinines remain unaltered. Sulphate of copper occupies a somewhat anomalous position, inasmuch as its value is not appreciably enhanced by the extraordinary advance in the price of the metal. Foreign creosote is in very small supply, and English makers have in consequence advanced prices. Quicksilver may now be quoted at £10 10s., but business to any extent could not be done at this price. Mercurials support their late advance. Antimony—owing to the scarcity of ore smelters are unwilling sellers and ask excessive prices.

OILS.—The demand for olive continues in abeyance, and quotations are further lowered. At Naples the market has fallen into an extreme state of depression consequent upon an almost complete cessation of orders. Business there we are advised has been almost at a stand-still, holders being unwilling to part with their stocks at the ruinous prices offered, whilst at the same time exporters have had no inducements to purchase. Under these circumstances, and probably with a view to stimulate demand, reports of injury to the trees in flower by severe winds have been promulgated, and predictions of short supply threatened. Such reports must always be cautiously received, and especially so when coming from interested sources. American advices assert that there is a scarcity of cotton-seed, and that planters are asking exhorbitant prices. We hear that New Orleans contains cotton-seed oil mills, capable when in full swing of crushing 75,000 tons of seed annually, which yield 2,625,000 gallons of oil. It is stated that some of the mills have already stopped for want of seed.

If this information is quite reliable, we may look for an advance in the oil shortly. At present the market is dull at £31 per tun for refined. Good business has been done in Ceylon cocoa-nut at £35 10s., for ordinary up to £36 for good to fine, a few tuns of very fine selling at £36 5s. Cochin, however, has not attracted much attention. Rape is advanced in price, and palm has sold slowly at £37 10s. for fine Lagos. Of fish oils, seal has been fetching more money, and it is now pretty certain that the Newfoundland fisheries have not resulted in such a satisfactory catch as last year. This appears to be attributable not so much to scarcity of seals as to the difficulty of getting at them, owing to the heavy-packed ice at the fishing grounds. Any future scarcity in seal oil will create a demand for whale as its substitute; the latter is already slightly dearer. Cod is firmer, being now quoted at £33 10s. to £34, and of East India fish, either on the spot or for arrival, there are buyers at £28 and sellers at £29.

Turpentine has fluctuated considerably during the month, and on the 22nd ult. declined to 47s. for American spirits. Since then the recovery has been sure, though gradual, and with a good demand; the market closes at 57s. 6d. for American, with indications of further advance. Petroleum has elicited more inquiry, chiefly for contract purposes.

Monthly Price Current.

[The prices quoted in the following list are those actually obtained in Mincing-lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.]

CHEMICALS.	1872.				1871.			
	s.	d.		s. d.	s.	d.		s. d.
ACIDS—								
Acetic .....per lb.	0	4½	to	0 0	0	4	to	0 0
Citric .....per lb.	3	8	..	0 0	2	8½	..	0 0
Hydrochlor. ....per ewt	4	0	..	7 0	4	0	..	7 0
Nitric .....per lb.	0	5	..	0 5½	0	5	..	0 5½
Oxalic ..... ,,	1	1½	..	1 2	0	9	..	0 0
Sulphuric ..... ,,	0	0¾	..	0 1	0	0¾	..	0 1
Tartaric crystal .. ,,	1	7	..	1 7½	1	3½	..	1 3¾
powdered ,,	1	7½	..	0 0	1	3¾	..	0 0
ANTIMONY ore.....per ton	270	0	..	290 0	240	0	..	280 0
crude ..per ewt	40	0	..	0 0	36	0	..	38 0
regulus.. ,,	76	0	..	79 0	46	0	..	47 0
star .... ,,	75	0	..	80 0	48	0	..	49 0
ARSENIC, lump..... ,,	18	6	..	0 0	15	6	..	16 0
powder.... ,,	7	6	..	0 0	6	9	..	7 3
BRIMSTONE, rough ..per ton	145	0	..	150 0	160	0	..	0 0
roll ....per ewt	10	0	..	0 0	10	0	..	10 3
flour.... ,,	12	0	..	12 6	12	0	..	13 0
IODINE, dry .....per oz.	1	11	..	2 1	0	10½	..	0 0
IVORY BLACK, dry..per ewt.	8	6	..	0 0	0	0	..	0 0
MAGNESIA, calcined..per lb.	1	2	..	1 3	1	1	..	0 0
MERCURY..... per bottle	210	0	..	0 0	200	0	..	222 6
MINIUM, red .....per ewt.	21	3	..	21 6	20	6	..	21 0
orange .... ,,	31	6	..	32 0	31	6	..	0 0
PRECIPITATE, red ....per lb.	3	7	..	0 0	3	6	..	0 0
white .. ,,	3	5	..	0 0	3	5	..	0 0
PRUSSIAN BLUE ..... ,,	0	0	..	0 0	0	0	..	0 0
SALTS—								
Alum .....per ton	160	0	..	170 0	135	0	..	140 0
powder .... ,,	180	0	..	0 0	145	0	..	150 0
Ammonia:								
Carbonate .....per lb.	0	7	..	0 7¼	0	6	..	0 6¼
Hydrochlorate, crude, white.....per ton	620	0	..	626 0	460	0	..	560 0
British (*see* Sal Ammoniac)								
Sulphate .....per ton	443	0	..	0 0	380	0	..	390 0
Argol, Cape .....per ewt	65	0	..	90 0	45	0	..	79 0
France .... ,,	0	0	..	0 0	0	0	..	0 0
Oporto, red ,,	24	0	..	27 0	22	0	..	24 0
Sicily .... ,,	60	0	..	0 0	0	0	..	0 0
Naples, white ,,	60	0	..	0 0	0	0	..	0 0
Florence, white	0	0	..	0 0	0	0	..	0 0
,, red ,,	0	0	..	0 0	0	0	..	0 0
Ashes (*see* Potash and Soda)								
Bleaching powd..per ewt.	16	9	..	0 0	14	6	..	15 0
Borax, crude .... ,,	60	0	..	80 0	42	6	..	60 0
(Tincal) .. ,,	47	0	..	65 0	45	0	..	60 0
British refnd. ,,	98	0	..	0 0	68	0	..	70 0
Calomel .....per lb.	3	4	..	0 0	3	4	..	0 0
Copper:								
Sulphate .....per ewt.	29	0	..	34 0	22	6	..	25 0
Copperas, green ..per ton	60	0	..	62 6	50	0	..	60 0
CorrosiveSublimate..p.lb.	2	9	..	0 0	2	8	..	0 0
Cr. Tartar, French, p. ewt.	110	0	..	112 6	95	0	..	97 6
Venetian grey ,,	112	6	..	0 0	95	0	..	97 6
brown ,,	0	0	..	0 0	75	0	..	85 0
Epsom Salts ....per ewt.	5	9	..	6 3	6	0	..	7 0
Glauber Salts .... ,,	4	6	..	6 0	4	6	..	6 0
Lime:								
Acetate, white, per ewt.	14	0	..	23 0	12	6	..	23 0
Magnesia: Carbonate ,,	42	6	..	45 0	42	6	..	0 0
Potash:								
Bichromate ....per lb.	0	8	..	0 0	0	5	..	0 5¼
Carbonate:								
Potashes, Canada, 1st sort .....per ewt.	41	0	..	0 0	34	0	..	34 6
Pearlashes, Canada, 1st sort .....per ewt.	56	0	..	0 0	40	0	..	0 0
Chlorate .....per lb.	1	9½	..	0 0	1	3	..	0 0
Prussiate .....per lb.	1	7	..	0 0	1	1	..	0 0
red .... ,,	3	2	..	0 0	1	9½	..	1 10
Tartrate (*see* Argol and Cream of Tartar)								
Potassium:								
Chloride .....per ewt.	9	9	..	10 0	12	0	..	12 6
Iodide..... per lb.	35	0	..	0 0	14	6	..	15 0
Quinine:								
Sulphate, British, in bottles ..... per oz.	7	9	..	0 0	7	2	..	0 0
Sulphate, French ,,	7	6	..	7 7	6	9	..	6 10
Sal Acetos .....per lb.	1	4½	..	0 0	0	11½	..	0 0
Sal Ammoniac, Brit. ewt.	48	0	..	49 0	41	0	..	42 0
Saltpetre:								
Bengal, 6 per cent or under .....per ewt.	29	6	..	30 3	27	0	..	28 6
Bengal, over per cent. per ewt.	28	0	..	29 3	25	6	..	0 0
Madras..... ,,	0	0	..	0 0	0	0	..	0 0
Bomb. & Kurrachee p.ct.	0	0	..	0 0	0	0	..	0 0
European..... ,,	0	0	..	0 0	0	0	..	0 0
British, refined ,,	33	0	..	34 0	30	6	..	31 0
Soda: Bicarbonate, p.cwt.	17	6	..	0 0	12	6	..	0 0
Carbonate:								
Soda Ash....per deg.	0	3¼	..	0 3⅝	0	2¼	..	0 2½
Soda Crystals per ton	137	6	..	142 6	92	6	..	95 0
Hyposulphite..per cwt	16	0	..	17 6	13	0	..	0 0
Soda:								
Nitrate .....per cwt.	16	0	to	16 6	16	0	to	16 3
SUGAR OF LEAD, White, cwt.	44	6	..	0 0	39	0	..	40 0
Brown ..... ,,	31	0	..	0 0	26	0	..	28 0
SULPHUR (*see* Brimstone								
VERDIGRIS ..... per b.	1	1	..	1 3	1	0	..	1 2
VERMILION, English..per lb.	3	6	..	3 8	3	6	..	0 0
China.... ,,	3	9	..	4 0	3	4	..	0 0
DRUGS.								
ALOES, Hepatic....per cwt.	100	0	..	240 0	80	0	..	240 0
Socotrine .. ,,	160	0	..	460 0	120	0	..	325 0
Cape, good.. ,,	31	0	..	34 0	23	0	..	27 6
Inferior ,,	25	0	..	30 0	17	0	..	22 0
Barbadoes ,,	75	0	..	210 0	70	0	..	200 0
AMBERGRIS, grey..... oz.	25	0	..	29 0	25	0	..	33 0
BALSAM —								
Canada ..... per lb.	1	6	..	0 0	0	10	..	0 11
Capivi ..... ,,	2	3	..	0 0	1	10	..	1 11
Peru ..... ,,	9	4	..	0 0	9	3	..	9 6
Tolu ..... ,,	1	9	..	1 11	1	10	..	1 11
BARKS—								
Canella alba ....per ewt.	15	0	..	25 0	15	0	..	25 0
Cascarilla..... ,,	22	0	..	37 0	20	0	..	36 0
Peru, crown & grey per lb.	1	6	..	3 1	0	10	..	2 6
Calisaya, flat ,,	3	2	..	3 4	3	2	..	3 6
quill ,,	3	2	..	3 4	3	2	..	3 6
Carthagena ,,	0	10	..	2 0	0	10	..	1 10
Pitayo .... ,,	0	10	..	1 10	0	10	..	1 6
Red ..... ,,	1	10	..	6 0	2	0	..	7 0
Bucbo Leaves ..... ,,	0	4½	..	1 4	0	6	..	0 10½
CAMPHOR, China.. per ewt.	90	0	..	0 0	60	0	..	65 0
Japan ,,	90	0	..	9 0	67	6	..	70 0
Refin Eng. per lb.	1	4½	..	1 5	1	2	..	0 0
CANTHARIDES ..... ,,	7	0	..	7 3	5	3	..	0
CHAMOMILE FLOWERS p. ewt	45	0	..	70 0	40	0	..	62 6
CASTOREUM ..... per lb.	3	0	..	30 0	3	0	..	30 0
DRAGON'S BLOOD, lp. p. ewt.	100	0	..	220 0	80	0	..	210 0
FRUITS AND SEEDS (*see also* Seeds *and* Spices)								
Anise, China Star pr ewt.	130	0	..	140 0	110	0	..	0 0
German, &c. ,,	35	0	..	40 0	44	0	..	50 0
Beans, Tonquin .. per lb.	1	0	..	1 8	0	9	..	1 6
Cardamoms, Malabar good ,,	7	0	..	7 9	6	6	..	7 6
inferior ,,	6	0	..	6 9	4	6	..	6 3
Madras ,,	2	6	..	7 0	4	0	..	7 3
Ceylon ,,	4	0	..	4 3	2	8	..	2 10
Cassia Fistula.. per ewt.	12	0	..	30 0	12	0	..	30 0
Castor Seeds .. ,,	10	0	..	12 0	10	0	..	12 0
Cocculus Indicus ,,	18	0	..	20 0	13	0	..	14 6
Colocynth, apple.. per lb.	0	3	..	0 6	0	3	..	0 6
Croton Seeds .. per ewt.	54	0	..	58 0	77	0	..	82 6
Cubebs ..... ,,	25	0	..	27 0	25	0	..	27 0
Cummin..... ,,	50	0	..	56 0	90	0	..	100 0
Dividivi ..... ,,	16	6	..	17 0	12	0	..	14 0
Fenugreek..... ,,	12	0	..	22 0	17	0	..	25 0
Guinea Grains .. ,,	48	0	..	50 0	23	0	..	24 0
Juniper Berries ,,	11	6	..	12 6	15	0	..	15 6
Myrobalans .... ,,	14	6	..	18 0	10	0	..	15 6
Nux Vomica.... ,,	10	6	..	13 6	11	6	..	14 0
Tamarinds, East India ,,	2	0	..	14 0	5	0	..	12 0
West India, new ,,	12	0	..	30 0	10	0	..	16 6
Vanilla, large .... per lb.	41	0	..	55 0	27	0	..	37 6
inferior ,,	23	0	..	39 0	10	0	..	25 0
Wormseed per cwt.	0	0	..	0 0	0	0	..	0 0
GINGER, Preserved, in bond (duty 1d. per lb.) per lb.	0	6½	..	0 10½	0	6	..	0 10
GUMS (*see separate list*)								
HONEY, Chili .... per cwt.	45	0	..	56 0	36	0	..	57 6
Cuba .... ,,	35	0	..	50 0	25	0	..	42 0
Jamaica.. ,,	40	0	..	56 0	31	0	..	52 0
IPECACUANHA .... per lb.	5	6	..	5 8	5	3	..	5 6
ISINGLASS, Brazil.. ,,	2	5	..	4 6	2	8	..	4 5
Tongue sort ,,	3	2	..	5 2	3	6	..	5 0
East India ,,	1	4	..	4 1	1	6	..	3 10
West India ,,	3	8	..	4 3	3	9	..	4 2
Russ. long staple	6	0	..	9 6	5	6	..	8 0
,, leaf ,,	3	6	..	6 6	3	0	..	5 6
,, Simovia	2	0	..	3 6	2	0	..	3 6
JALAP, good ..... ,,	1	6	..	2 8	1	9	..	3 2
infer. & stems ,,	0	6	..	1 5	0	6	..	1 7
LEMON JUICE ... per degree	0	1	..	0 1½	0	1	..	0 1½
LIQUORICE, Spanish per ewt.	35	0	..	37 0	0	0	..	0 0
Italian ,,	40	0	..	60 0	40	0	..	60 0
MANNA, flaky .... per lb.	3	3	..	3 6	3	6	..	4 0
small..... ,,	1	10	..	2 0	2	0	..	2 2
MUSK..... per oz.	20	0	..	48 0	21	0	..	36 0
OILS (*see also separate List*)								
Almond, expressed per lb.	1	1	..	0 0	1	2	..	0 0
Castor, 1st pale .... ,,	0	5½	..	0 0	0	5½	..	0 5¾
second .... ,,	0	5	..	0 5½	0	4¾	..	0 5
infer. & dark ,,	0	4½	..	0 5	0	4½	..	0 4½
Bombay (in casks)	0	4½	..	0 4½	0	0	..	0 0
Cod Liver .....per gall.	4	6	..	5 0	5	0	..	6 0
Croton.....per oz.	0	3½	..	0 4½	0	3½	..	0 4½
Essential Oils:								
Almond .....per lb.	35	0	..	0 0	42	0	..	0 0
Anise-seed .....per lb.	11	3	..	0 0	8	5	..	8 6
Bay .....per ewt.	65	0	..	70 0	65	0	..	70 0
Bergamot .....per lb.	8	9	..	18 0	8	0	..	15 0
Cajeput.(in bond) per oz.	0	1½	..	0 3	0	2½	..	0 3
Caraway .....per lb.	5	6	..	6 3	5	6	..	6 3
Cassia ..... ,,	6	0	..	0 0	4	2	..	4 4
Cinnamon .....per oz.	0	10	..	0 6	1	0	..	4 6
Cinnamon-leaf.. ,,	0	4	..	0 6	0	2	..	0 6

	1872.		1871.	
Essential Oils, *continued:*—	s. d.		s. d.	s. d.
Citronelle .....per oz.	0 2½	to 0 2½	0 2	to 0 2½
fine.... ,,	0 2½	.. 0 0	0 2½	.. 0 0
Clove.....per lb.	3 3	.. 3 6	2 4	.. 0 0
Juniper ..... ,,	1 9	.. 2 0	1 9	.. 2 0
Lavender..... ,,	3 6	.. 6 0	3 0	.. 4 3
Lemon..... ,,	10 0	.. 18 0	5 0	.. 9 6
Lemongrass ....per oz.	0 4½	.. 0 5	0 2½	.. 0 2½
Neroli ..... ,,	0 5	.. 0 0	0 5	.. 0 6
Nutmeg ..... ,,	0 4	.. 0 7½	0 4	.. 0 7
Orange.....per lb.	7 0	.. 8 0	5 0	.. 7 0
Otto of Roses....per oz.	12 0	.. 21 0	12 0	.. 21 0
Patchouli ..... ,,	4 0	.. 0 0	3 0	.. 0 0
Peppermint:				
American ....per lb.	13 0	.. 14 0	15 6	.. 17 0
English ..... ,,	30 0	.. 33 0	33 0	.. 34 0
Rosemary ..... ,,	1 9	.. 2 0	1 9	.. 2 0
Sassafras..... ,,	3 0	.. 3 6	3 0	.. 3 6
Spearmint ..... ,,	4 0	.. 16 0	4 0	.. 10 0
Thyme..... ,,	1 10	.. 2 0	1 10	.. 2 0
Mace, expressed .. per oz.	0 1½	.. 0 3	0 1½	.. 0 3
OPIUM, Turkey ..... per lb.	19 0	.. 20 0	23 0	.. 26 0
inferior ..... ,,	12 0	.. 19 0	14 0	.. 22 0
QUASSIA(bitter wood) per ton	80 0	.. 85 0	60 0	.. 70 0
RHUBARB, China, good and				
fine .....per lb.	2 3	.. 6 0	2 3	.. 6 6
Good, mid. to ord. ,,	0 5	.. 2 0	0 4	.. 2 0
Dutch trimmed ,,	9 0	.. 9 6	0 0	.. 0 0
Russian ..... ,,	0 0	.. 0 0	0 0	.. 0 0
ROOTS—Calumba..per cwt.	25 0	.. 40 0	25 0	.. 42 0
China ..... ,,	23 0	.. 0 0	23 6	.. 25 0
Galangal ..... ,,	16 0	.. 17 0	15 0	.. 17 0
Gentian ..... ,,	20 0	.. 22 0	27 0	.. 30 0
Hellebore ..... ,,	30 0	.. 32 0	30 0	.. 35 0
Orris..... ,,	65 0	.. 73 0	65 0	.. 89 0
Pellitory ..... ,,	60 0	.. 63 0	58 0	.. 60 0
Pink.....per lb.	0 4	.. 0 11	0 9	.. 1 3
Rhatany ..... ,,	0 4	.. 0 11	0 5	.. 0 11
Seneka..... ,,	5 0	.. 5 2	4 3	.. 4 0
Snake ..... ,,	1 1	.. 1 2	0 11	.. 1 0
SAFFRON, Spanish .. ,,	30 0	.. 38 0	35 0	.. 44 0
SALEP .....per cwt.	170 0	.. 200 0	110 0	.. 0 0
SARSAPARILLA, Lima per lb.	0 8	.. 0 11	0 0	.. 0 7½
Para..... ,,	1 0	.. 1 3	1 0	.. 1 3
Honduras ..... ,,	1 2	.. 1 8	1 2	.. 1 7
Jamaica ..... ,,	1 7	.. 2 11	1 7	.. 3 2
SASSAFRAS .....per cwt.	0 0	.. 0 0	0 0	.. 0 0
SCAMMONY, Virgin ..per lb.	26 0	.. 32 0	25 0	.. 29 0
second & ordinary ,,	10 0	.. 25 0	10 0	.. 28 0
SENNA, Bombay .... ,,	0 1½	.. 0 5	0 3½	.. 0 6
Timnivelly ..... ,,	0 2½	.. 1 4	0 4	.. 1 6
Alexandria..... ,,	0 3½	.. 1 7	0 3½	.. 1 7
SPERMACETI,refined.. ,,	1 6	.. 0 0	1 6	.. 1 7
American ..... ,,	1 2	.. 1 3	1 3	.. 1 4
SQUILL..... ,,	0 1¼	.. 0 2	0 1½	.. 0 1¾
GUMS.				
AMMONIACI drop ..per cwt.	120 0	.. 107 6	80 0	.. 155 0
lump .. ,,	60 0	.. 100 0	55 0	.. 75 0
ANIMI, fine washed ,,	300 0	.. 340 0	260 0	.. 320 0
bold scraped ,,	230 0	.. 290 0	200 0	.. 250 0
sorts ..... ,,	100 0	.. 260 0	120 0	.. 200 0
dark ..... ,,	100 0	.. 150 0	75 0	.. 110 0
ARABIC, E. I., fine				
pale picked .. ,,	75 0	.. 84 0	67 0	.. 75 0
srts, gd. to fin ,,	00 0	.. 74 0	55 0	.. 05 0
garblings.. ,,	25 0	.. 50 0	25 0	.. 45 0
TURKEY, pick. gd to fin. ,,	160 0	.. 200 0	160 0	.. 200 0
second & inf. ,,	85 0	.. 150 0	85 0	.. 155 0
in sorts .. ,,	65 0	.. 80 0	70 0	.. 90 0
Gedda.... ,,	30 0	.. 42 0	38 0	.. 44 0
BARBARY, white .. ,,	0 0	.. 0 0	65 0	.. 70 0
brown .. ,,	39 0	.. 44 0	48 0	.. 50 0
AUSTRALIAN ..... ,,	80 0	.. 46 0	20 0	.. 42 0
ASSAFŒTIDA,com.to gd ,,	35 0	.. 122 0	40 0	.. 100 0
BENJAMIN, 1st qual. ,,	180 0	.. 500 0	160 0	.. 400 0
2nd ,, ,,	150 0	.. 210 0	150 0	.. 215 0
3rd ,, ,,	65 0	.. 85 0	40 0	.. 85 0
COPAL, Angola red ,,	120 0	.. 137 6	120 0	.. 140 0
Benguela .. ,,	100 0	.. 115 0	00 0	.. 95 0
Sierra Leone..per lb.	0 3½	.. 0 11	0 2	.. 0 11
Manilla ....per cwt.	20 0	.. 37 0	16 0	.. 43 0
DAMMAR, pale .... ,,	55 0	.. 58 0	60 0	.. 64 6
EUPHORBIUM ..... ,,	15 0	.. 17 0	10 0	.. 0 0
GALBANUM ..... ,,	200 0	.. 260 0	200 0	.. 260 0
GAMBOGE,pckd.pipe ,,	300 0	.. 350 0	260 0	.. 300 0
GUAIACUM .....per lb.	0 9	.. 2 10	0 0	.. 2 7
KINO.....per cwt.	60 0	.. 90 0	60 0	.. 120 0
KOWRIE, rough.... ,,	24 0	.. 32 0	25 0	.. 34 0
scraped .. ,,	35 0	.. 90 0	35 0	.. 80 0
MASTIC, picked.....per lb.	6 0	.. 7 3	6 0	.. 7 0
MYRRH, gd. & fine per cwt.	125 0	.. 200 0	120 0	.. 160 0
sorts.....	85 0	.. 120 0	80 0	.. 115 0
OLIBANUM, p. sorts	76 0	.. 78 0	77 0	.. 80 0
amber & ylw.	70 0	.. 75 0	67 0	.. 75 0
garblings.... ,,	22 0	.. 43 0	19 6	.. 44 0
SENEGAL .....per cwt.	70 0	.. 80 0	65 0	.. 85 0
SANDARAC ..... ,,	53 0	.. 100 0	55 0	.. 110 0
SHELLAC, Orange.... ,,	172 6	.. 190 0	107 6	.. 127 6
Liver..... ,,	160 0	.. 170 0	110 0	.. 112 6
THUS..... ,,	20 0	.. 20 6	16 0	.. 25 0
TRAGACANTH, leaf.. ,,	200 0	.. 450 0	200 0	.. 410 0
in sorts ,,	110 0	.. 180 0	110 0	.. 180 0
OILS.				
SEAL, pale.....per tun	£40 0	.. 40 0	£37 10	.. 0 0
yellow to tinged ,,	36 0	.. 37 0	33 0	.. 36 0
brown..... ,,	34 0	.. 0 0	31 0	.. 0 0

	1872.		1871.	
Oils, *continued:*—	£ s.		£ s.	£ s.
COD ..... per tun	33 10	to 34 0	35 10	to 0 0
WHALE, South Sea, pale ,,	37 0	.. 0 0	34 0	.. 84 10
yellow ,,	35 0	.. 36 0	33 0	.. 33 10
brown ,,	31 0	.. 33 0	32 0	.. 0 0
East India, Fish ,,	28 0	.. 28 10	28 0	.. 29 0
OLIVE, Galipoli ..... ,,	49 0	.. 0 0	45 10	.. 0 0
Trieste ..... ,,	48 0	.. 48 10	48 0	.. 0 0
Levant ..... ,,	46 0	.. 0 0	40 0	.. 47 0
Mogador..... ,,	45 0	.. 0 0	47 0	.. 0 0
Spanish ..... ,,	48 0	.. 0 0	48 0	.. 0 0
Sicily ..... ,,	48 0	.. 0 0	47 0	.. 0 0
COCOANUT, Cochin.. per ton	41 0	.. 0 0	49 0	.. 50 0
Ceylon.. ,,	30 0	.. 0 0	39 15	.. 40 0
Sydney ,,	32 0	.. 36 10	38 0	.. 38 10
GROUND NUT AND GINGELLY:				
Bombay	0 0	.. 0 0	0 0	.. 0 0
Madras.....	34 0	.. 0 0	43 0	.. 44 0
PALM, fine	37 10	.. 0 0	37 0	.. 0 0
LINSEED	82 15	.. 83 0	32 0	.. 0 0
RAPESEED, English, pale ..	38 0	.. 38 10	44 5	.. 44 10
brown.....	37 0	.. 37 10	42 5	.. 42 10
Foreign pale....	39 0	.. 40 0	46 0	.. 48 0
brown.....	0 0	.. 0 0	43 0	.. 0 0
COTTONSEED	31 0	.. 0 0	27 0	.. 32 0
LARD.....	46 0	.. 48 0	62 0	.. 64 0
TALLOW	86 0	.. 0 0	86 0	.. 0 0
TURPENTINE, American, cks.	52 0	.. 0 0	36 0	.. 0 0
PETROLEUM, Crude	0 0	.. 0 0	0 0	.. 0 0
	s. d.	s. d.	s. d.	s d.
refined, per gall.	1 4	.. 1 5	1 4½	.. 1 5
Spirit ,,	0 11	.. 0 0	0 9	.. 0 0
SEEDS.				
CANARY .....per qr.	48 0	.. 54 0	40 0	.. 48 0
CARAWAY, English per cwt.	0 0	.. 0 0	0 0	.. 0 0
German, &c.....	0 0	.. 0 0	0 0	.. 0 0
CORIANDER	0 0	.. 0 0	0 0	.. 0 0
HEMP .....per qr.	40 0	.. 44 0	44 0	.. 48 0
LINSEED, English per qr...	0 0	.. 0 0	0 0	.. 0 0
Black Sea & Azof	61 0	.. 62 0	63 0	.. 0 0
Calcutta ,,	62 6	.. 63 9	63 3	.. 63 6
Bombay ,,	04 0	.. 0 0	64 3	.. 64 6
St. Petrsbrg. ,,	0 0	.. 0 0	61 0	.. 62 0
Mustard, brown..per bshl.	0 0	.. 0 0	0 0	.. 0 0
white.. ,,	8 0	.. 9 6	9 0	.. 9 6
POPPY, East India per qr.	04 0	.. 65 0	00 0	.. 0 0
SPICES.				
CASSIA LIGNEA ....per cwt.	95 0	.. 115 0	105 0	.. 121 0
Vera ..... ,,	88 0	.. 80 0	45 0	.. 80 0
Buds ..... ,,	130 0	.. 140 0	125 0	.. 145 0
CINNAMON, Ceylon,				
1st quality ....per lb.	2 4	.. 8 8	2 2	.. 3 5
2nd do. ..... ,,	1 9	.. 3 5	1 8	.. 3 4
3rd do. ..... ,,	1 7	.. 2 11	1 7	.. 3 2
Tellicherry ..... ,,	2 7	.. 8 2	0 0	.. 0 0
CLOVES, Penang.... ,,	1 1½	.. 1 3	1 1	.. 1 2
Amboyna..... ,,	0 5	.. 0 10½	0 4	.. 0 6½
Zanzibar ..... ,,	0 4½	.. 0 4½	0 2⅞	.. 0 3
GINGER, Jam., fine per cwt.	90 0	.. 180 0	80 0	.. 180 0
Ord. to good .. ,,	40 0	.. 87 0	36 0	.. 77 0
African..... ,,	39 0	.. 0 0	29 0	.. 0 0
Bengal ..... ,,	82 0	.. 0 0	25 0	.. 26 0
Malabar ..... ,,	0 0	.. 0 0	0 0	.. 0 0
Cochin ..... ,,	45 0	.. 120 0	35 0	.. 110 0
PEPPER, Blk, Malabar, per lb.	0 6¾	.. 0 7½	0 5¾	.. 0 6¼
Singapore..... ..	0 7	.. 0 7½	0 5½	.. 0 5
White, Tellicherry ,,	0 0	.. 0 0	0 9½	.. 1 2½
Cayenne ..... ,,	1 3	.. 1 8	0 8½	.. 1 4½
MACE, 1st quality ..per lb.	3 4	.. 3 11	3 3	.. 3 10
2nd and inferior.. ,,	2 9	.. 3 3	2 8	.. 3 2
NUTMEGS, 78 to 60 to lb.	3 3	.. 4 0	2 7	.. 3 10
90 to 80 ,,	3 2	.. 3 3	2 3	.. 2 6
132 to 95 ,,	2 10	.. 3 1½	1 9	.. 2 3
VARIOUS PRODUCTS.				
COCHINEAL—				
Honduras, black ..per	2 6	.. 3 6	2 3	.. 3 5
,, silver .. ,,	2 5	.. 2 8	2 4	.. 2 6
,, pasty .. ,,	2 4	.. 0 0	1 10	.. 2 8
Mexican, black .... ,,	2 8	.. 2 9	2 5	.. 2 9
,, silver .... ,,	2 5	.. 2 6	2 3	.. 0 0
Teneriffe, black....	2 5	.. 4 0	2 4	.. 3 8
,, silver.... ,,	2 4	.. 2 7	2 3	.. 2 5
PUMICE STONE ..per ton	120 0	.. 150 0	120 0	.. 150 0
SOAP, Castile ....per cwt.	85 0	.. 0 0	85 0	.. 0 0
SPONGE, Turk. fin pkd pr lb.	12 0	.. 16 0	12 0	.. 16 0
Fair to good .. ,,	4 0	.. 11 0	4 0	.. 11 0
Ordinary..... ,,	1 0	.. 3 6	1 0	.. 3 6
Bahama..... ..	0 0	.. 2 6	0 6	.. 2 6
TERRA JAPONICA—				
Gambier .. per cwt.	21 0	.. 21 6	15 9	.. 16 0
Free cubes ,,	23 0	.. 25 0	18 6	.. 21 0
Cutch ..... ,,	23 6	.. 26 0	18 0	.. 21 0
WOOD, DYE, Bar ..per ton	£3 10	.. £4 0	£3 15	.. £4 2 6
Brazil ..... ,,	0 0	.. 0 0	0 0	.. 0 0
Brazletto ..... ,,	0 0	.. 0 0	0 0	.. 0 0
Cam ..... ,,	17 0	.. 20 0	18 0	.. 24 0
Fustic, Cuba..... ,,	8 10	.. 9 10	7 10	.. 8 10
Jamaica ..... ,,	6 0	.. 8 0	5 10	.. 6 15
Savanilla..... ,,	7 0	.. 0 0	0 0	.. 0 0
Logwood, Campeachy ,,	9 10	.. 10 0	9 10	.. 10 0
Honduras ..... ,,	6 0	.. 0 0	5 10	.. 6 10
St. Domingo .... ,,	0 0	.. 0 0	4 7 6	.. 6 0
Jamaica ..... ,,	4 5	.. 4 10	4 10	.. 4 17 6
LIMA, first pile.... ,,	8 10	.. 10 0	9 0	.. 10 10
RED SANDERS .... ,,	7 0	.. 0 0	5 5	.. 0 0